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AMERICAN MILK REVIEW

VOL. 6 No. 7 JULY, 1944

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THE "AIR-TIGHT" SEPARATOR

Available TODAY FOR TOMORROW'S FINER MILK PLANTS

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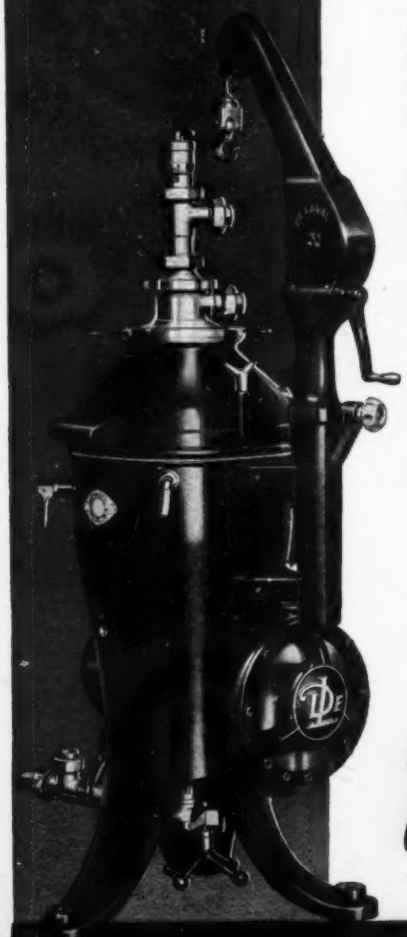

THE quality and, to a considerable extent, the value of most milk plant products—cream, ice cream and butter, for example—depend largely upon how well the separator does its work. Improperly separated cream cannot be worked into a really first-grade product; nor can wasted butter-fat be used to pay dividends.

Realizing this, the largest milk companies have installed more and more De Laval "Air-Tight" Separators until today most, if not all, of their plants are equipped with the separators that produce *better cream at lower cost.*

The "Air-Tight" Separator skims cleaner and also saves both cream and skim-milk by eliminating foam; enables elevation of both skim-milk and cream without pumping after separation; consumes less power, less oil; costs less to maintain; requires less attendance; simplifies and improves the whole cream operation.

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DE LAVAL SEPARATORS

"AIR-TIGHT" WORLD'S STANDARD TYPES

AMERICAN MILK REVIEW

Volume 6 NEW YORK, JULY, 1944 No. 7

Urges Advertising Dairy Foods

Despite Wartime Shortages Newspaper and Magazine Promotion Cited by American Dairy Association as Earning Big Dividends for Other Industries

RATION-INDUCED consumer habits of using dairy substitutes or imitations will be continued into peacetime unless dairy farmers insure their own future by business measures which their competitors have found successful.

This warning was sounded by L. L. Rummell, public relations director of the Kroger Grocery and Baking Co., Cincinnati, before the annual convention of the Holstein-Friesian Association of America.

Rummell called for national promotion of milk and its products, pointing out that the instruments for such a business-building drive are already at hand "with present advertising and publicity channels and through your own organizations."

Spearheading such a drive at the present time is the American Dairy Association, non-profit, farmer-financed organization of milk producers in leading dairy states, which is undertaking a nation-wide advertising and research program. The ADA program is designed to create post-war markets at least large enough to overcome a threatened surplus of 10 to 15 billion pounds of milk a year when the government halts its unusually heavy buying for war purposes and relief of battle-devastated foreign lands.

Post-War Market Goal

Rummell told the dairymen that advertising can be their "secret weapon in meeting competition in that day when the public will no longer be standing in line at a food store, as they are today, to take all that is offered for sale—if their ration books will allow."

Rummell said post-war pocketbooks will be more "streamlined" after the war, and contended that shoppers made food-conscious by wartime shortages will choose more carefully to get the food that is "appealing, economical, nutritious, wholesome, glamorous."

He said the dairy industry "has that kind of a product," and advised impressing the public with dairy food values through advertising "which has paid big dividends in other industries," notably citrus fruits.

Rummell pointed to the Sunkist campaign now running in 451 daily newspapers, 16 Sunday magazines and 10 national magazines, with the theme "Add Health to Breakfast."

"What a story you have in milk," Rummell remarked. "Add health to breakfast, yes; and health to lunch, health to dinner, health to youth, health to old age, health to everybody. Yet, oranges have increased about 250 per cent in consumption and grapefruit over 500 per cent since World War I."

Phenomenal Juice Gains

Rummell also noted tomato juice has increased 6,000 per cent in sales in 15 years and forecast that, "dressed up as a vitaminized cocktail, it will likely continue its upward wave of popularity."

"You," he told the dairymen, "have nature's own delightful food drink, rich in protein, minerals, vitamins, packed with fighting energy—a food that knows no equal. That's milk."

The fact that advertising sways consumers is demonstrated, Rummell said, by their willingness to pay a premium for Maine or Idaho potatoes; and by their judgment of soft drinks on the basis of Coca Cola, or soups on the basis of Campbell's.

Declaring the dairy industry "has a job to do," Rummell said "it can keep all its cows of today into the post-war days and still have all of our people adequately nourished."

He advised market studies as they relate to dairy products; mass displays, properly priced, by retailers; modern packages; "more glamorous labeling;" packages that fit into "the present-day kitchen scheme;" consumer-size packages, especially in cheese; discounts for large purchases; and price differentials for those who carry milk home from stores.

"Ice cream sales," he said, "increase tremendously in food stores when this dessert is properly displayed and economically priced to take home." He said cellophane-wrapped cheese, on open display, moves several times faster than cheese on which an "inferior" merchandising job is done.

Substantiates ADA Policies

Rummell's recommendations carried considerable weight with his audience, due to the fact that his company operates milk processing plants as auxiliaries to its chain-retailing markets in Ohio, Indiana, western Pennsylvania and other points in the east central states. Buying from producers, processing their own product and selling direct to consumers through Kroger's own outlets enabled Mr. Rummell to speak with authority, and not hearsay.

The ideas advanced by this chain store executive coincide precisely with the policies and programs advanced by ADA and other far-seeing dairy organizations, who visualize vast potential post-war markets for milk and dairy products to be secured by consistent and intelligent educational work before the actual need arises.

FOR MAXIMUM VALUE ROUTE THIS ISSUE THRU YOUR ORGANIZATION:

PRESIDENT ☐
PLANT MANAGER ☐
LABORATORY ☐
PURCHASING AGENT ☐
_____
_____
_____
FILE ☐

Order Labeling Change

N. Y. City Health Board Amends Marking Rules for Milk and Fluid Milk Products Effective July 15

Wartime emergency changes have been made by the New York City Board of Health in the labeling of milk and milk products delivered to homes, grocery stores, dairies and delicatessen stores, to become effective July 15. At present bottles and containers of milk bear this notice "Pasteurized in 12 hour period–(hour) a.m.–(day)", but on and after July 15 this will read "not to be distributed before–(hour) a.m.–(day)". The Board also limits the sale of milk under the new regulations for 48 hours after the hour and date marked on the container.

Action was taken because of the order issued by the U. S. Office of Defense Transportation late last summer restricting the delivery of milk to alternate days to retail shops and prohibiting the Sunday delivery of milk on wholesale routes. According to the statement issued by the Department of Health, the prohibition against the delivery of milk on Sunday created a hardship on the milk industry because it became necessary to supply retail shops with the equivalent of two days' supply of milk each Saturday. This was a larger volume of milk than could be processed conveniently within a single day because of equipment and labor limitations.

The problem had to be met by permitting milk plant operators to provide for the extra Sunday needs by storing milk which had been pasteurized Friday morning. Under existing regulations some of this milk would have been legally unsalable after 10 a.m. Sunday and many persons would have been deprived of their Sunday supply. Modifications of the labeling requirements have been permitted since September 1943 to overcome this situation until the new regulations became effective.

Principal Changes Summarized

The principal changes are as follows:

(1) The day and time *when the distribution may begin* for milk, cream, flavored milk and flavored drink will be indicated on the caps instead of the day and *period of pasteurization as now shown.*

(2) The indicated day and time when the distribution may begin must be within 36 hours of the time of pasteurization of the milk, cream, flavored milk or flavored drink.

(3) The period of pasteurization is deemed to be the 36 hour interval immediately preceding 6:00 a.m. of the day of distribution as shown.

(4) The period for the distribution of milk, flavored milk and flavored drink will be the 48 hours following the day and time stated on the label instead of the presently permitted 54 hour period after pasteurization. In the case of sweet cream the distribution time will extend for 72 hours instead of the present 96 hours.

(5) The labeling provisions for flavored milk and flavored drink are made the same as for fluid milk and cream insofar as the period of sale and time distribution are concerned.

Plant operators have been given an extension of time to provide new labels for single-service paper containers, since it was shown that the new plates required for printing the new labels will not be available by July 15.

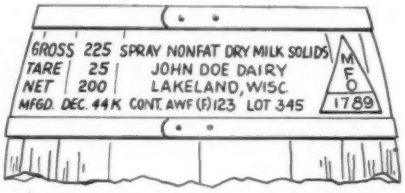
The Health Department believes the new labeling provisions will provide the most feasible method of enabling plant operators to meet the orders of the ODT and at the same time provide adequate supplies of milk over the week-end periods without adversely affecting the sanitary quality of the supply.

LABELING CONTAINERS

Marking Instruction for Nonfat Dry Milk Solids Containers

M. L. Brenner, Chief, Procurement and Price Support Branch of WFA, has announced that lettering, at least three-quarters inch high, must be applied clearly and distinctly by means of a rubber stamp or stencil on one side of the barrel, above the bilge and between the two upper hoops.

The grade and date of manufacture of the product must be indicated by showing the month and year of manufacture and the letter "K" for Extra Grade or "N" for standard Grade. Example: Extra Grade milk manufactured in December, 1944, "MFGD DEC 44K."


GROSS 225 SPRAY NONFAT DRY MILK SOLIDS
TARE 25 JOHN DOE DAIRY
NET 200 LAKELAND, WISC.
MFGD. DEC. 44 K CONT. AWF (F) 123 LOT 345
M F O
1789

The specimen sketch, set forth above, indicates the markings to be used on the barrels of roller or spray nonfat dry milk solids which are for delivery to the Commodity Credit Corporation.

Application of the MFC triangle should be made only when specifically directed to do so in shipping instructions. Its only purpose in the above specimen is to indicate the position in which the triangle, or a similar order designation, is to be placed.

Buy U. S. War Bonds

Cheese Supplies Up

Slight Increase in Goods for Civilian Outlets but Prices Firmly Held at Ceilings — Make Above 1943

Government reports indicate that American cheese production now falling off moderately, but maintaining a fair gain compared to same time last year. Quantities available for civilian trade have lately come up a little bit more, most arrivals on the New York market representing processed goods with only a relatively small volume of natural Cheddar.

As formerly, the bulk of the civilian supply is moving in regular or near regular distributing channels, all prices still crowd ceilings and most receipts are being merchandised under the service wholesaler's operation.

For the most part reasonably prompt outlets are found. However, indications of consumption of American cheese show a dampening trend. OPA is holding all Group 1 cheese at the 10-point-per-pound value for the July ration period. Domestic Swiss and so-called perishable types, which during late June were freed from point value were placed back on the list, effective July 2d at a 4 point level.

By June 30 DPMA had acquired commitments for 47,092,152 lbs. of American cheese under the production set-aside program since May 1st. WFA purchases on the Wisconsin Cheese Exchange continue relatively light. The agency took on June 30 5 cars of Twins and Cheddars, approximating 200,750 lbs., at the basic rate of 23.25c.

Domestic Swiss is moving east in freer volume as the end of the holding period for more flush season production comes along. Price ranges continue widely variable under the existing loose "period" control maintained by the OPA. This is the only major style cheese which has not been brought under specific dollars-and-cents ceilings.

NEW MOTOR TRUCK ORDER

According to a recent announcement new motor truck allocations will be controlled by the District Offices of ODT instead of the Interstate Commerce Commission, effective July 1, 1944. The Highway Transport Department of ODT will handle the allocations.

ODT's Regional Division will process applications in accordance with policies and procedures of the Allocation Section of the Highway Transport Department.

Reports indicate that further efforts are being made to conserve motor trucks used in the dairy industry.

Editorially Speaking....

First Dairy Wage Ceilings

MAXIMUM wage rates for dairy workers, under Specific Wage Ceiling Regulation No. 20 in certain portions of the Los Angeles Metropolitan Milk Shed have been established in an order issued by the War Food Administration's Director of Labor. This, it is said, is the first such regulation applying to dairy farm workers to be issued since the inception of the farm wage stabilization program in November, 1942.

The order applies to milkers, milk-house machine operators and milk-house can men engaged in dairying in Los Angeles and adjacent counties in California. A wage ceiling of $205 per month per string is established on the base pay of regular milkers, and $195 on the pay of milk-house machine operators and milk-house can men.

Certain additional payments to regular milkers also are limited. In the case of hand milkers who draw milk in excess of specified base poundages, maximum bonus per month by 25 cents for each daily average pound of milk drawn is allowed. For machine milking in this category the maximum bonus is 12½ cents.

For machine milking of long strings and for hand milking of long strings maximum additional payments as a bonus per month are also specified in the order. Milkers on short strings may receive extra compensation at the regular rate for other jobs for the proportionate time spent on such jobs. The order provides also for extra turn-ins for relief milkers, for flat monthly wages, and in cases where board and lodging are furnished the worker. All rates provide for one day off in each 7 days.

Reports from California indicate that the rates specified in this wage ceiling regulation are fully ample to cover the highest prevailing rates being paid in California at this time. The fact that California dairymen have been compelled, in order to secure dairy farm labor, to pay higher levels than generally existed in other sections of the country, has been a subject of widespread discussion in dairy industry circles. Such being the case, it may have been necessary for the WFA's Director of Labor to take this action to prevent a further spiralling of wages for dairy workers on the West Coast and the pirating of essential dairy farm workers. As this is the first instance of an effort to make a specific wage ceiling regulation for dairy labor effective, the results naturally will be watched with great interest by dairy farm operators in all sections of the country.

One Post-War Problem

IN THE reconversion peacetime period will the milk distributing branch of the dairy industry retain the war-created every-other-day system of retail milk delivery so generally adopted That is a question being propounded perhaps as much as any other confronting executives in the business today.

Concededly, economies in the use of labor, gasoline, tires and motorized equipment have been effected in varying degrees by the curtailed or restricted service. Consumers generally have accepted the swing to the skip-a-day set up in good grace, appreciating the exigencies of war and the mandatory governmental directives. True, the change has incurred some inconvenience for housewives who do not have sufficient refrigerator capacity for two days' supply of milk or cream, and have been obliged to patronize stores for part of their daily milk requirements.

It cannot be denied that the every-other-day system of deliveries has yielded benefits to the men on the routes in most communities by increasing their earnings and shortening their working hours. In other cities the contention is made that the restricted service has caused the men to work longer hours and that the increased earnings are due entirely to overtime pay.

In the post-war period some new conditions may be anticipated with considerable certainty. In addition to returning ex-service men desirous for their old jobs on the routes, there will be other young men discharged from the armed services who will also aspire to work as milk route drivers. Instead of rationing of gasoline, tires and trucks we may logically eventually expect a future of plenty, with salesmen of these commodities again actively soliciting business and patronage.

In any consideration of the future milk distributing system there are a number of vital factors with which the milk trade must reckon. The attitude of the housewife toward the frequency of deliveries is one of prime consideration At the present time the general belief is that the great majority of purchasers of home-delivered milk prefer daily service from the standpoint of freshness, psychology, refrigerator capacity and the objectionably inconvenient feature of going to the retail store for additional milk to satisfy daily family requirements. While consumers generally have accepted restricted service as a necessary war measure there is considerable doubt that they will continue to be satisfied in a period of surpluses.

There appears to be considerable diversity of opinion on the part of the route men in regard to daily versus every-other-day delivery. Unions themselves disagree on the question. As before pointed out, in some strongly unionized communities drivers claim that they work less hours and make more money since delivering every-other-day, while in other cities the drivers contend they work more hours and make more money only by virtue of the over-time pay. Unquestionably, the attitude of the drivers toward a continuance of restricted service in the post-war period or a return to daily delivery will have a decided influence in solving the perplexing question.

Competition among distributors in a single market will also be another de-

BACK THE INVASION
BUY MORE WAR BONDS

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termining influence. Judging from competitive results of the past, only one or a very few dealers in a given market who should decide to return to daily delivery would entirely disrupt any program desired by the majority to retain the every-other-day system.

While many discussions in regard to post-war planning are rather vague in pointing out specific solutions to industry problems, there is no uncertainty about the realism of this one confronting the milk trade with respect to the abandonment or continuance of the every-other-day system. Immediate consultations and conferences held between the various elements concerned—distributors, plant employees and drivers, consumers and public officials—unquestionably will aid in final solution. Whatever is done now to clarify the issue will without a doubt greatly aid in finding a way out of one of the important milk distributing perplexities bound to arise in the reconversion period.

Interesting Milwaukee Survey

RESULTS of a recent intensive survey, compiled and published in booklet form by *The Milwaukee Journal*, indicate that during the year ending January 15, 1944, 97.8 per cent of all Greater Milwaukee families were regular purchasers of milk, as compared with 97.1 per cent during the year previous. The "1944 Consumer Analysis" issued by the *Journal* shows further that the highest purchasers for milk are found among families of the top bracket ($50 rent and up) with 98.3 per cent of these families buying the product while 96.8 per cent of those families in the lowest income bracket (under $30 rent) regularly buy milk.

This analysis, together with similar studies made in previous years, indicate that the monthly consumption of milk per family in that area was steadily increased from 46.2 quarts in 1941 to 52.8 quarts in 1944.

The average family turning in a Consumer Analysis questionnaire consisted of 2.4 adults and 1.2 children, or 3.6 persons total. Breaking down the monthly consumption of 52.8 quarts per month per family into average per capita consumption, the *Journal* survey found that less than one pint of milk per day is consumed by each adult and each child. This is indeed significant in view of the fact that nutritionists consistently recommend that each child should consume at least a quart of milk daily, and each adult one pint.

While the present is not an opportune time to advocate a stepping-up of per capita milk consumption, due to the government requirements for milk in other forms, these figures do emphasize the great potential that will exist in the post-war period for increasing the sale of milk so that it will more nearly approach the minimum requirements as recommended by foremost nutritionists.

Extend OPA Law

Senate-House Compromise Measure on Price Control with Provisions Sent to President for Approval

Washington, D. C. — A Senate-House conference report extending the price control law until June 30, 1945, was completed June 20, and forwarded to the White House for approval. The signature of the President was affixed June 30.

The measure now embodies compromises, including an amendment tying some cotton textile prices to the parity price of raw cotton, which critics insist will considerably restrict the Office of Price Administration's future actions.

The bill also contains a compromise of equally controversial provisions on the subsidy program, which is claimed to be OPA's chief weapon in holding down the cost of foods. It stipulates that all subsidy payments will cease after July 1, 1945, unless Congress specifically authorizes them, and provides that no more funds will be made available now except for items already subsidized —milk, butter, cheese, meat and bread.

An amendment to the bill provides for extension of price control for one year, instead of the eighteen months proposed by the Senate.

Another provision puts a ban on subsidy payments after June 30, 1945, unless specifically authorized by Congress and restriction of present subsidy payments to items now receiving them.

OPA Powers Curbed

The bill in its final form provides for removal of the OPA's "highest price line limitation" for retailers, but provision that it can be enforced on wholesalers and manufacturers.

Permission for the Emergency Court of Appeals to assess "not more than" treble damages in civil suits is provided also in the measure.

Protests against all OPA orders, past, present or future, may be filed at any time with the OPA administrator, instead of within the present required sixty days, according to the bill.

The bill provides that OPA may not compel changes in established business practices except where the price administrator finds them to be necessary to prevent violation of price controls.

Special hazards in the production of perishable commodities must be taken into account by the OPA in setting price ceilings, according to the measure.

A provision grants permissibility for the price administrator to purchase sample items as evidence in suspected price violation cases.

Another provision states that within five days after judgment in civil suits a convicted defendant may file with the emergency court a protest against the OPA regulation under which he was convicted; if the court finds it invalid, the case will be dismissed. The same provision is made in criminal cases except that the protests may be filed thirty days after start of trial proceedings or five days after judgment, whichever the defendant selects.

WAIBEL ELECTED SECRETARY

Borden Official Elevated by Action of Board of Directors

Theodore D. Waibel was elected Secretary of the Borden Company at a regular meeting of the board of directors, it has been announced by T. G. Montague, president of the company. Mr. Waibel entered the service of the Borden Company in 1915 in the legal department. He later was transferred to the treasurer's office and in 1931 was appointed Assistant Secretary of the company.

Mr. Waibel succeeds Walter H. Rebman, who has retired after more than 42 years of service with the Borden Company, starting as a stenographer and progressing through the sales department to assistant secretary and subsequent election to secretaryship of the company in 1932. Mr. Rebman's retirement is due to ill health.

DAIRY PENALIZED

Washington, D. C.—For violating quota provisions of War Food Order 8, the White Way Retail Dairy of 411 West Adams St., Creston, Ia., has been ordered to reduce its use of milk solids in manufacturing frozen dairy foods during the months July through December to 50 per cent of the quantity used during the corresponding months of 1942.

The concern was charged with and admitted using more than the permitted quantity of milk solids during February, March, May, June, July and August, 1943.

SALES QUOTAS HELD UP

Dr. C. J. Blanford, Administrator of the New York Metropolitan marketing area, has continued for the first half of July above-quota fluid sales limits. Dealers are permitted during the period to sell 104 per cent of fluid milk volume of June, 1943, with cream at 90 per cent and by-products 110 per cent.

May Milk at $3.15

New York Shed Returns Hit All-Time Record — Feed Payments Boost Total to $3.60

Three new records were set by the New York Metropolitan area milk pool during May when a uniform farm price of $3.15 per hundred pounds was reached for deliveries to 450 approved plants in the six-state shed. In his analysis of the May pool, Dr. C. J. Blanford, Administrator of the New York Metropolitan milk marketing area, pointed out that with WFA dairy feed payments added at the minimum rate of 45c per hundred pounds, dairy farmers in the pool collected at the rate of $3.60 per hundred pounds for May production. Without dairy feed payments the uniform net return stands 3c per hundred pounds below April and 11c above May, 1943.

New records for the pool are:

1. Total return, including the WFA payments, of $23,667,061.95, larger than any previous monthly pool equalized by the New York federal-state marketing orders.

2. Total rate of return of $3.60 for May, highest ever recorded for that month.

3. Total fluid sales of 248,237,663 pounds of milk in the marketing area (New York City and adjoining counties in New York State), the largest quantity on record for any month.

Dr. Blanford reported that May pool, without the benefit of feed payments, had a farm value of $20,777,958.32. The value, figured at $3.15 a hundredweight, includes as well the regular payments for butterfat in excess of 3.5 per cent and for delivery in counties near the market. The total return, however, was boosted to the record mark by the addition of the WFA payments worth at least $2,889,103.63.

Fluid Use at Tops

The total return of $3.60 is a record high price for milk delivered in May. The previous record, according to Cornell University records, was set in 1919 when the average price of May deliveries was $3.26 a hundred weight for milk of 3.5 per cent butterfat.

Reports from fluid handlers revealed that 248,237,663 pounds of milk were distributed in May to consumers in the marketing area. Dr. Blanford announced that the total sold in fluid form is the largest ever reported in any month since the marketing orders took effect in 1938. The previous record was set in June 1943 when fluid consumption accounted for 241,976,689 pounds. The administrator pointed out, however, that, as May has 31 days against June's 30, the two record-setting months are in a virtual tie with daily average sales slightly in excess of 8,000,000 pounds.

The return from the May pool will be shared among 51,295 dairy farmers whose deliveries amounted to 642,023,028 pounds of milk. A year ago, when the pool received from 54,268 dairy farms, the intake at 462 plants was 643,936,480 pounds. A gain of 21 pounds in the average daily delivery per farm accounted for the fact that the volume in the pool this May was practically level with last year despite a decrease of 5.5 per cent in the number of producers. The daily delivery averaged 404 pounds this year against 383 pounds in May 1943.

Expect $3.14 in June

Dr. Blanford later estimated that the total farm value of June deliveries would reach $23,785,000 to set a new record in dollar-return to producers for the second month in a row. Dr. Blanford revealed that dairy farmers poured their output into the receiving stations at a rate surpassing any month on record.

"Available production figures," the administrator commented, "indicate that the average delivery per farm in June was 422 pounds a day, bettering by eight pounds the rate recorded in June 1943. The rate of deliveries in June has advanced steadily over the past five years from a low of 368 pounds a day in 1940.

"As a result of the record rate of production, the volume of milk marketed through the New York pool in June is expected to amount to 650,000,000 pounds. The pool volume, despite the gain in production per farm, is estimated at 3.3 per cent less than last year when the June total was 672,057,283 pounds. The current estimate, however, is projected for the total deliveries of 51,300 dairy farmers, while last year's June pool was the intake from 54,095 dairy farms.

The administrator announced that the forecast rate of return from the New York pool is $3.14 a hundredweight, which, in combination with dairy feed payments from the WFA, means that dairy farmers will collect at the rate of $3.59 a hundredweight.

May Uniform Milk Price

Administrator C. J. Blanford has announced a uniform price for the month of May of $3.15 per 100 lbs. for 3.5 per cent milk received from producers at plants in the 201-210 mile zone under the federal-state orders regulating the handling of milk in the New York Metropolitan marketing area. This is 3c below April and 11c above May, 1943. In addition, dairy feed payments at the minimum rate of 45c per 100 lbs. bring the total return to $3.60.

Sheffield May Milk Price

Sheffield Farms Co., Inc., announced a net cash price for 3.5 per cent milk delivered during May of $3.14 per 100 lbs. after deduction of 1c for association dues. This compared with an April net figure of $3.17 and a May 1943 price of $3.03. This applies to the 201-210 mile zone.

League May Pool Price

The Dairymen's League Cooperative Association average net paid pool return to producers for May was $3.09 per 100 lbs. for 3.5 per cent milk in the 201-210 mile freight zone. The comparable April figure was $3.12. The May, 1943, price was $2.95. Grade A premiums where earned are in addition.

May Minimum Prices

Basic prices for 3.5 per cent milk in 201-210 mile zones in effect in New York City Area under the Federal-State Marketing Agreement used by all handlers in figuring returns for May.

Class	per cwt.	butterfat differential
I	$3.70	.04
I (Outside)	.20†	.04
II-A	2.55	.073
II-B	2.43	.069
II-C	2.095	.060
II-D	2.219	.063
II-E	1.995	.057
II-F	1.995	.057
III	2.678	.077
IV-A	1.796	.051
IV-B	2.295	.056
V-A	1.260	.....
V-B	.722	.....

†Plus uniform price for May, 1943.

May Milk Receipts

NEW YORK METROPOLITAN AREA

	Receipts Rail and Truck 40-Qt. Cans		
	Milk	Cream	Cond.
May, 1944	3,705,998	88,392	39,065
May, 1943	3,542,459	81,282	33,271
Apr., 1944	3,440,073	70,274	35,946
Apr., 1943	3,378,399	62,546	38,848
Mar., 1944	3,621,846	57,706	26,473
Mar., 1943	3,475,331	59,965	29,982
Jan.-May, 1944	17,735,274	315,145	141,771
Jan.-May, 1943	16,918,723	300,105	146,713

PHILADELPHIA METROPOLITAN AREA

	Receipts Rail and Truck 40-Qt. Cans		
	Milk	Cream	Cond.
May, 1944	899,324	41,932	23,860
May, 1943	847,694	29,450	16,612
Apr., 1944	776,140	29,034	16,597
Apr., 1943	777,597	22,455	17,080
Mar., 1944	776,492	25,719	16,497
Mar., 1943	791,772	16,971	12,297
Jan.-May, 1944	3,884,326	135,612	85,343
Jan.-May, 1943	3,878,916	95,609	59,829

BOSTON METROPOLITAN AREA

	Receipts Rail and Truck 40-Qt. Cans		
	Milk	Cream	Cond.
May, 1944	677,022	41,956	14,910
May, 1943	672,715	47,709	17,092
Apr., 1944	632,101	34,119	16,748
Apr., 1943	641,830	41,922	18,190
Mar., 1944	687,527	33,747	7,606
Mar., 1943	648,632	42,390	13,132
Jan.-May, 1944	3,265,630	175,178	44,452
Jan.-May, 1943	3,175,767	192,536	64,976

ADDS NEW EQUIPMENT

Warsaw, Mo.—The Saline Company Milk Producers Association plant at Warsaw is being enlarged with an icing machine and new can washer.

Butter Demand Lighter

Supplies Exceed Sharply Cut Civilian Call—Upgrading Less Universal—Make Now Past Peak

Further loss of activity recently has featured the New York butter market, mainly with respect to buying by larger users but also increasingly in the case of small trade as well. Consumer inquiry appears further dampened, a tendency which should become more pronounced during the July ration period when point values have been put back on certain meat items and all cheese except Group 1.

More free butter has come to hand than receivers find ready outlets for. In this connection it should be understood that major users are pretty much limited to purchase of only enough goods to take care of current and near future needs,—which of course are sharply curtailed from anything like normal. Under the OPA price ceiling set-up and margin controls the great bulk of the users are having to procure butter on the basis of deliveries to their individual stores and are prevented from transferring such receipts elsewhere, – for example, to warehouses.

Since few if any retail outlets have facilities for carrying any quantity of reserves, the consuming trade in general has been unable to acquire material forward stocks. There has, of course, been some private storing of surplus but the bulk of this has been put away by wholesalers and jobbers to protect themselves against later shortages, and in some cases by that type of user who can secure butter delivered to warehouse.

Wholesale Prices Hold Firm

In the wholesale market only a little more goods is obtainable at the wholesalers' margin of ½c over the creamery base, and major receipts are moving in a jobbing way at maximum permitted limits. However, rather more butter has lately been traded in as below 92-93 score, quite a few lots being tendered in the 89-90 score category and here and there a little as Cooking Grade.

This tendency has been accentuated by a broad check-scoring campaign conducted by the OPA Enforcement Branch, under which official scores of incoming shipments are being determined and checks made on returns and selling prices. Another feature has been the rejection by the Army of some lots tendered as 90 score goods, which is the minimum acceptable grade.

Production now has passed the peak and is decreasing slightly, with free losses from last year being maintained. It seems more than probable that July will see a gradually shrinking quantity of butter available for civilian outlets. The prospective drop in production should offset the decrease of 5 points to 45 per cent in the July set-aside requirements.

Governmental stockpiling seems to be progressing at a satisfactory rate, though indications as to this are rather variable. Latest advices show that DPMA had up to late June secured commitments for 15,400,438 lbs. of butter against its 1944 season 30,000,000-lb. goal. This is for delivery June, July and August. Specific quantities of armed force accumulations are not announced.

N. R. COTTERILL PROMOTED

New Retail Sales Manager Succeeds A. R. Stevens

Sheffield Farms Company, Inc., has announced the advancement of Norton R. Cotterill, sales promotion and advertising manager, to the position of retail sales manager. He has been with the company since 1942. Prior to that time he was with General Motors Corporation and World Broadcasting System as vice - president in charge of sales.

N. R. Cotterill

Mr. Cotterill succeeds A. R. Stevens, who has beens transferred to Chicago to take over the post of sales manager for Zone 10 of National Dairy Products Corporation. He will have headquarters in the offices of the Hydrox Corporation, also a subsidiary of National Dairy.

NEW OPA APPOINTMENTS

Washington, D. C.—Curtis E. Rogers has been appointed Chief of the Processed Foods Branch it was announced June 28 by W. F. Straub, Director, Food Rationing Division, Office of Price Administration. Mr. Rogers, who has served as Head of the Supply and Requirements Section, will succeed Kenneth E. Stauffer, who resigned to accept appointment to another government agency.

The new branch chief is a graduate of Michigan State College. Since 1942 he has assisted in setting up the sugar and processed food rationing programs for OPA, serving as Head of the Supply and Requirements section continuously. Mr. Rogers will be succeeded in this post by Berle E. Larned, his assistant. Mr. Larned is a graduate of the University of Michigan.

Buy War U.S. Bonds

TRIBUTE TO DAIRY INDUSTRY

Lee Marshall Compliments Dairymen in Radio Broadcast

Tribute to the dairy industry for its unprecedented achievements in wartime was brought to the attention of the national CBS radio audience on June 26 in a talk by Lee Marshall, of the War Food Administration, talking from Washington.

Mr. Marshall, interviewed on the Owens-Illinois Glass Company's show, "Broadway Matinee," said that since 1941 the amount of dairy products shipped abroad has been trebled despite the war born difficulties and the dearth of new equipment.

Appearing with Mr. Marshall as interviewer on the show was Mrs. James Doolittle, wife of the famous flying Lieutenant General, who holds an important command post in Europe. Mrs. Doolittle has aided many home-front war projects during the past three years.

Both the radio guests of Owens-Illinois paid high compliment to the farmers and dairymen for their efficient work. Mr. Marshall said the available milk supply, through regulatory measures, has been allocated in the channels where it does the most good.

While the production of fluid milk is limited by the size of the nation's dairy herd, the desired objectives, Mr. Marshall said are achieved in a measure by the limitations on the manufacture of ice cream, sale of heavy cream, and the rationing of cheese and canned milk.

WFO 79 FINANCING CHANGED

Washington, D. C.—As an outgrowth of developments early in the year in which a group of Cleveland milk dealers were granted an injunction in federal court prohibiting the War Food Administration from collecting assessments for the purpose of financing the operation of War Food Order No. 79, the fluid milk and cream sales control, WFA officials announced June 21 an amendment deleting the assessment provisions. Under the new program, which was made effective as of June 1, the cost of administering WFO 79, which is conducted through regional bases throughout the country, will be borne by the WFA itself.

The early season contest of WFA's method of providing funds for the order momentarily caused much concern throughout the dairy industry as a whole, which by and large has regarded the fluid milk and cream sales quota program as the most effective means of coping with the wartime emergency situation with respect to regulating civilian supplies of these dairy products.

WHY YOU SHOULD SELL VITAMIN D MILK NOW!

"Sure it's hot. But I don't mind it since my General Mills 'Dollars for Dairies' Plan profits are going up like that thermometer."

WHEN your profit line goes up like a thermometer on a hot day—and stays there—it's something to talk about. By converting a large share of your present volume to Vitamin D Milk, you can obtain an extra price premium on every quart you sell.

ALL FACTORS favor increased sales of Vitamin D Milk now. There is a growing new market of women who are better informed about the health benefits of Vitamin D than any other vitamin. There is an outstanding need for Vitamin D Milk in the National Nutrition Program—Vitamin D is not found in diet-significant amounts in the recommended "Basic 7" food groups listed in the Government Food charts. Uncle Sam is counting on the dairies to aid the National Nutrition Program—*through Vitamin D Milk!*

For best results, use the General Mills "Dollars for Dairies" Plan, which includes colorful hard-hitting Vitamin D (A. R. P. I. Process) promotional materials—tailor-made to suit your individual requirements. Especially designed to meet present conditions are radio commercials, newspaper ad mats and layouts for newspaper advertising. These sales aids are prepared for regular and homogenized Vitamin D Milk. Best of all, these business-getting materials are organized into a *planned campaign* to give you maximum results at minimum cost.

Send in the coupon for complete information *today!*

GENERAL MILLS, INC.
SPECIAL COMMODITIES DIVISION
MINNEAPOLIS, MINNESOTA

Yes!

General Mills, Inc., Special Commodities Division AMR 7-44
400 South Fourth Street, Minneapolis 15, Minn.

Send me prices on your Vitamin D (A. R. P. I. Process) Concentrate in the size container best suited to my needs.

☐ I am now fortifying.....quarts milk—Homogenized ☐ Plain ☐ (check which)

☐ I am not now using Vitamin D. I have ☐ have not ☐ Homogenizer. I have.....routes

Name of Dairy.....

City.....*Zone*..... *State*.....

Signature.....

Half Century Service

Otto Hoy, Veteran Chicago Supply Man, Honored on Occasion of Fifty Years in Business

This year marks the completion of 50 years in servicing the dairy industry for Otto Hoy, veteran Chicago dealer in dairy supplies.

In honor of the occasion, Mr. Hoy was presented recently with a specially made Handi-Quart milk bottle by the Owens-Illinois Glass Company, whose containers he sells. The bottle, built into a trophy base, was covered with gold and inscribed with a tribute to Mr. Hoy.

Otto Hoy holding a specially made milk bottle gilded with gold, presented on the occasion of his 50th anniversary in business by R. B. Wilhelm, sales manager of the Dairy Container Division of the Owens-Illinois Glass Company.

Born in Denmark in 1871, Mr. Hoy came to America in 1890 and settled in what is now Oak Park, Illinois. He began in the dairy industry in 1884 as an employe of the Creamery Package Manufacturing Company, where he remained until 1900.

Between 1900 and 1904 he was in business for himself, thereafter becoming associated with C. T. Nightingale, selling milk bottles. From 1909 to 1911 he worked for the Illinois Glass Company, and from there he returned to his own private business, which he has operated constantly since that time. He sells a complete line of dairy supplies and equipment.

Mr. Hoy installed the first pasteurizer in Chicago in the Sidney Wanzer Dairy in 1898 and also the first pasteurizer in Canada in Quebec in 1899. Mr. Hoy says he also sold the first milk bottles used in Chicago.

REACT TO ODT REQUEST

Washington, D. C.—The Office of Defense Transportation has been advised of the cancellation of seven additional conventions by organizations of various types in response to its request for such action in order to conserve transportation to meet war needs, ODT Director J. Monroe Johnson announced July 3.

In response to the request of the ODT that federal agencies restrict employees' travel and take measures to keep employees and officials from appearing at conventions, 34 agencies have now replied that they will take such action.

PENNSYLVANIA MILK FLOW

May Production slightly Below 1943 —June Trend Reviewed

Harrisburg, Pa.—Production of milk on Pennsylvania farms during the month of May showed a substantial seasonal increase over April, but was less than in the corresponding month of last year, according to the latest federal-state dairy report.

Total production for May was 487,000,000 pounds of milk. It was 15 per cent above that for April but 2 per cent below production for May of 1943, which in turn was 1 per cent below May of 1942. May was the eleventh consecutive month to show a decrease in milk production in Pennsylvania, month by month, compared with production a year earlier, except for 29-day, leap-year February.

May's production per cow in herds kept by crop correspondents was seventenths of a pound less on June 1 than on the same date a year ago, but was the same amount above the 10-year June average, 1933-42.

Dairy feed is still relatively scarce in a few localities. This accounts partly for a drop of nearly a pound and a half in the amount of grain concentrates fed to milk cows on June 1 compared with the amount fed on April 1 of this year. Milk cows in reporters' herds were getting 5.7 pounds of grain and concentrates on June 1 while on April 1 they got 7.1 pounds.

Growth of pastures have been luxuriant, and they are providing an abundance of feed in all sections of the State. This accounts for part of the reduction in grain feeding, observers say.

PET-VAN CAMP FIRMS MERGE

Announcement has been made that the absorption of Van Camp Milk Co., by Pet Milk Co. of St. Louis has been approved by the stockholders of both concerns.

The merger plan calls for issuance of $3,000,000 in 4¼ per cent cumulative second preferred stock by Pet Milk, of which all but $100,000 worth would go to Van Camp stockholders in exchange for their present stock.

"E" AWARD TO MATHIESON

Recognition for High Production of Essential War Materials

The Saltville, Va., plant of The Mathieson Alkali Works was awarded the Army-Navy "E", at a ceremony held June 19, for high achievement in the production of war materials.

The "E" flag was presented by Col. Frederick C. Horner, chief, Highways Division, Transportation Corps, Washington, D. C., and accepted by George W. Dolan, president of the Mathieson organization. Col. Horner was introduced by Lt. William B. Wellborn, officer-in-charge of the Richmond Regional Office, Philadelphia Ordnance District. Lt. Comm. Richard A. Velz, USNR, assistant public relations officer, 5th Naval District, presented the "E" pins to the employees. Master of ceremonies for the occasion was Hon. Stuart B. Campbell, Wytheville, Va., member of the Virginia General Assembly and past president of the Virginia Bar Association.

Two of the most important products produced at Saltville are caustic soda and soda ash, both of which are used in making explosives, high-octane gasoline, lubricants, and medical supplies. Caustic soda is also essential in the manufacture of rayon, used for cargo parachutes, cords in military tires, and fabric for self-sealing gas tanks in planes. Other important uses for soda ash include the production of aluminum for planes, and glass for containers to help save scarce metals.

Other products of the Saltville plant are dry ice for refrigerating perishable foodstuffs and for other refrigerating purposes; carbon dioxide, which is in wide use as a fire extinquishing agent by the armed forces and war industries and also for inflating life vests, boats and rafts, and a group of fused alkali products, one of which is used in tablet form at the fighting fronts for purification of drinking water.

OPA RESTRICTED

Washington, D. C.—Dealers no longer may be deprived of the right to buy or sell rationed goods because of a violation of OPA price ceilings on a rationed article, the Office of Price Administration pointed out July 1. Formal action making this change was taken to bring rationing regulations into conformity with the Stabilization Extension Act, which became effective June 30.

At the same time OPA emphasized that no change of any kind is made in OPA's authority to restrict or forbid a dealer who violates a *rationing* regulation(as distinct from a price regulation) from dealing in rationed commodities.

Our Fighting Boys Need Water...

Designers of the famous "Water Buffalos"

IT TAKES a lot of things, like bullets, bombs, bayonets, bazookas—and water, to win a war. Cool, fresh drinkable water in abundance. Peerless Pumps at the fighting fronts keep canteens filled—and keep our fighting men fit!

Ever since Pearl Harbor, the building of Peerless Pumps, like the building of the justly famous "Water Buffalo" Amphibian Tanks (also Peerless designed), has been an essential War Industry.

Even in the days before the war, Peerless was producing more Deep Well Turbine Pumps than any other concern in America. As the leading manufacturer in the Industry, Peerless won recognition throughout the entire civilized world. On the great ranches, farms, orchards and irrigation projects. In the waterworks of our great cities. In the vast industrial plants. Wherever water is needed, there you find dependable Peerless Pumps, operating twenty-four hours per day, year in and year out.

Now that we are meeting the tremendous war-front demand for Pumps, we hope to be able to start "digging in" on our huge backlog of orders for home needs.

TURBINE TYPE
(Deep Well)
15 to 30,000 Gallons Per Minute

HI-LIFT TYPE
Vertical Rotatice Shaft Pump
Positive Displacement
10 to 60 Gallons Per Minute

HYDRO-FOIL TYPE
600 to 220,000 Gallons Per Minute

PEERLESS PUMP DIVISION — *Food Machinery Corporation*
1250 Camden Avenue, S. W., Canton 6, Ohio
301 W. Ave. 26, Los Angeles 31, California
OTHER FACTORIES: San Jose 5, and Fresno 16, California

PEERLESS

Deep Well Pumps . . .

Technology Conference at Storrs

Short-time—High-temperature Pasteurization and Other Plant Techniques Featured at Well-attended Meeting at University of Connecticut, June 16

(By D. J. Hankinson, Assistant Professor, Department of Dairy Industry, University of Connecticut)

MILK dealers, inspectors, equipment manufacturers, and quality control officials from Connecticut, New York, and Massachusetts attended a one-day conference on short-time—high-temperature pasteurization at the University of Connecticut, Storrs, on June 16. Given under the sponsorship of the Dairy Industry Department of the College of Agriculture, the lively discussion of short-time—high-temperature problems by the 160 people in attendance indicated a growing interest in this method of pasteurization. In addition to the talks given by the speakers, such topics as public health requirements, clarification and engineering features were freely discussed.

With C. R. Brock of the Brock-Hall Dairy, New Haven, Connecticut, presiding, the morning program was opened by E. O. Anderson of the Dairy Industry Department at the University. Following a welcome by E. G. Woodward, Dean of the College of Agriculture, a discussion of Electrical Short-Time—High-Temperature Pasteurization of Milk was given by A. M. Palmer of the Electropure Division, Trumbull Electric Manufacturing Company, Plainville, Connecticut. Dale Gillespie of the Creamery Package Manufacturing Company, Chicago, discussed the use of steam for the process.

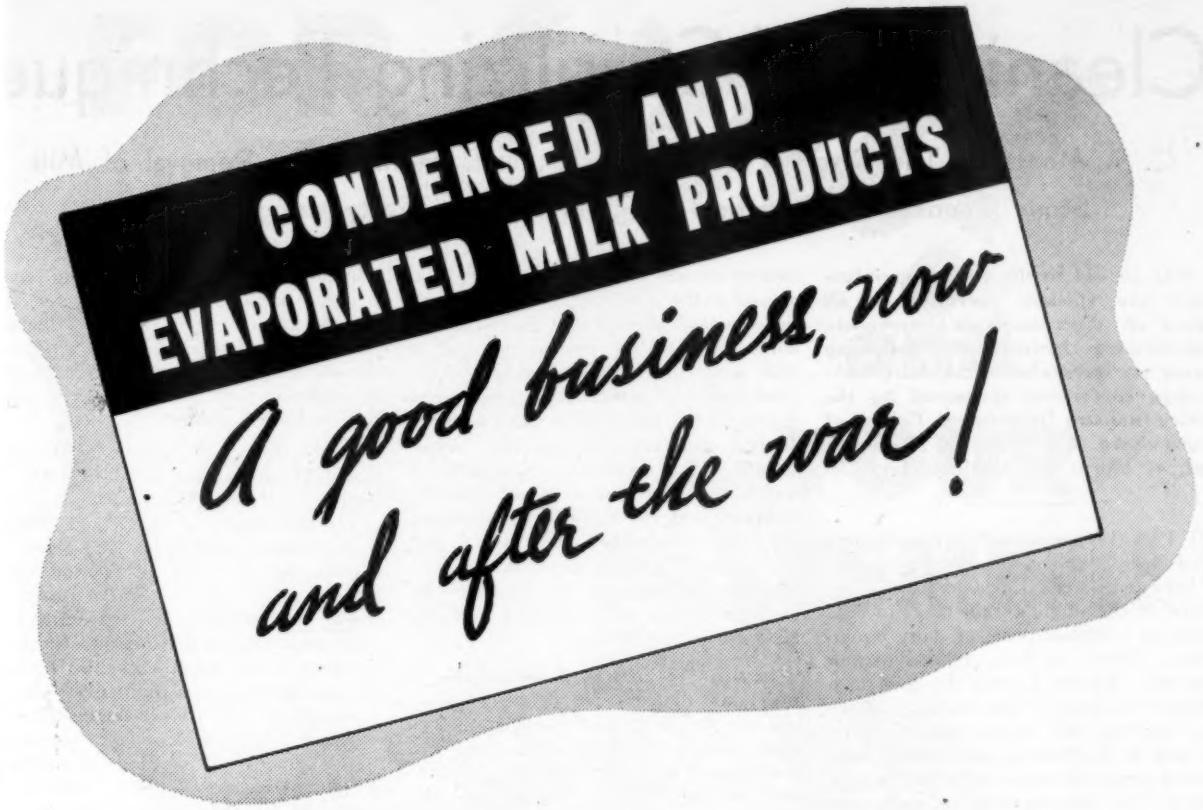
On the afternoon program, with Dr. T. W. Workman of the New England Division of the Borden Company, New York, presiding, Raymond Olson of the Taylor Instrument Companies, Rochester, New York, gave a talk on automatic controllers. Milk Stone Removal was the subject of a talk by C. M. Moore of the Diversey Corporation, Chicago, and he was followed by Dr. A. C. Fay of the H. P. Hood & Sons, Charlestown, Massachusetts, who discussed Short-Time—High-Temperature Pasteurization Quality Control. Following the speakers a panel discussion was held in which questions were answered by the conference speakers and also by William P. Hinckley of the Cherry-Burrell Corporation, Boston, Harry Hamilton of the DeLaval Separator Company, Poughkeepsie, New York, and V. C. Patterson of the York Corporation, York, Pennsylvania. Closing remarks were given by Professor A. R. Merrill, head of the Dairy Industry Department at the College.

Prior to the conference a short course of two-weeks duration was given for the milk inspectors of the Connecticut State Dairy and Food Commission, using the Trumbull Electropure short-time—high-temperature pasteurizer and other facilities available in the University creamery. Such subjects as checking holding time, adjusting diversion point for the flow diversion valve, wiring arrangements, public health requirements, automatic control, and regeneration were studied. Certificates were awarded at the conference to each enrollee by W. B. Young, director of short courses of the College of Agriculture. The course was given under the direction of E. O. Anderson and D. J. Hankinson of the Department of Dairy Industry with the assistance of A. M. Palmer of the Electropure Division, Trumbull Electric Manufacturing Company.

Mimeographed copies of abstracts of the talks at the conference can be obtained by writing to the Department of Dairy Industry, University of Connecticut, Storrs, Connecticut.

Elsewhere in this issue there is presented the full text of the paper on "Milk Stone Removal" delivered by C. M. Moore of the Diversey Corporation. In future issues of the "Review" some of the other papers prepared by leading authorities on short-time—high temperature pasteurization will be published.

Short-Time-High-Temperature Conference, June 16, 1944, Engineering Building, University of Connecticut, Storrs, Conn.



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MILK EVAPORATORS

Save 50% in Steam and Cooling Water

Creamery operators who are looking to the future for sound profit opportunities may find them in condensed and evaporated milk products. This is particularly true when they are manufactured with BUFLOVAK Milk Evaporators.

A 50% saving in steam and cooling water, plus top quality products in large quantities, that demand the peak of market prices, are some of the exclusive features of BUFLOVAK Evaporators.

These evaporators are made in a range of sizes and types that adapt them to every commercial application.

For your present needs or in your postwar plans, investigate BUFLOVAK Evaporators now.

A copy of Bulletin 329 will be sent without obligation.

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Cleaning and Sterilizing Technique

C. M. Moore of The Diversey Corporation Outlines Methods For Removal of Milk Stone Deposits in Short-time—High-temperature Pasteurizing Systems★

★As an aid to the proper maintenance and efficient operation of all types of short-time-high-temperature pasteurizing systems the following paper was presented at the dairy technology conference sponsored by the Dairy Industry Department, College of Agriculture, University of Connecticut, at Storrs, Connecticut, June 16.

IT IS to be expected that the cleaning of a high-temperature short-time pasteurizing unit is a more difficult problem than cleaning a storage tank, a weigh tank, or a similar piece of dairy equipment. There are two obvious reasons for this. We are heating the milk to a higher-than-normal temperature and we are handling the tremendous quantities of milk in the heating and cooling stage over a comparatively small area of equipment. The development of such new equipment as short-time pasteurizers invariably creates new problems in cleaning and sterilizing. Fortunately, the manufacturers of sanitation supplies have kept pace with the manufacturers of dairy equipment. A need was created for a foolproof method involving a minimum of labor and material to insure proper cleaning and sterilizing of the plate-type units. Before discussing this method further, however, it would be well to briefly consider the factors which contribute to the formation and structure of the deposit encountered on such pasteurizers. We can conveniently divide these into chemical factors and mechanical or physical factors.

Chemical Factors

Because of the difficulties experienced in investigating the type of deposit actually encountered under plant conditions, our Research Laboratories designed and built equipment to duplicate reasonably well the plate-type short-time pasteurizer. This equipment was so constructed that a deposit would be formed on stainless steel tubes which were then removed from the experimental unit and available for further study. Samples of the deposit were scraped from the tubing and subjected to an accurate chemical analysis. It was possible to make preliminary cleaning tests with such scrapings, or the tube could be replaced in the unit and treated by a cleaning procedure comparable to that actually employed in the plant. Also, the unit could be operated at the start by a process comparable to the holding method of milk so a direct comparison of the deposit could be made. By further modifications, the effect of water hardness, rinsing, composition of the milk, various cleaning and sterilizing compounds, as well as milkstone removers were thus determined with reasonable accuracy under laboratory conditions. This made it possible to later transfer the work to actual operating conditions in the plant to prove or disprove any ideas obtained from the laboratory investigation.

In these preliminary investigations, it was found that the type of deposit present on the short-time pasteurizer was quite different in composition from that encountered when the milk was pasteurized by the holding method. In the batch or holding method, the deposit consisted of organic and inorganic substances held together and to the equipment by the adhesive characteristics of the casein in the milk. Removal of the casein binder would thus bring about a disintegration of the entire deposit so that mild brushing would effectively remove the entire contamination. Where the equipment had been previously handled with ordinary cleaning compounds, particularly in hard water, the deposit would usually contain a higher-than-normal mineral content. A deposit of this sort would respond more readily to treatment with the proper type acid-base milkstone remover.

In the short-time pasteurizer, the normal type of deposit would consist of organic and inorganic substances but comprised mainly of casein salts which were produced undoubtedly by chemical reaction between the casein and minerals in the milk. Calcium caseinate would predominate; in fact, formed a substantial part of the deposit. Calcium caseinate is not readily soluble in most alkaline solutions and particularly so in those which could be economically and efficiently applied to the equipment under practical operating conditions. When treated with ordinary acid products alone, effective removal was not accomplished because, while the acid solutions would break up the casein salts, it would generally form from it a free casein deposit which was not particularly affected by the acid treatment alone.

Further tests and studies, later confirmed by actual plant runs, resulted in the development of a double operation which is now almost universally accepted

Speakers for S. T.-H. T. Conference, University of Connecticut, Storrs, Conn. Left to right, front row. Dr. A. C. Fay, H. P. Hood & Sons Co., Charlestown, Mass.; R. E. Olsun, Taylor Instrument Companies, Rochester, N. Y.; E. G. Woodward, Dean of Agriculture, University of Connecticut, Storrs, Conn.; C. R. Brock, Brock-Hall Dairy, New Haven, Conn.; A. M. Palmer, Trumbull Electric Mfg. Co., Plainville, Conn. Second row, Dr. D. J. Hankinson, Dept. of Dairy Industry, University of Connecticut, Storrs, Conn., C. M. Moore, Diversey Corporation, Chicago, Ill.; H. R. Hamilton, De Laval Separator Company, Poughkeepsie, N. Y., Dr. T. W. Workman, The Borden Co., New York City, N. Y. Back row, V. C. Patterson, York Corp., York, Penna.; E. O. Anderson, Dept. of Dairy Industry, University of Connecticut, Storrs, Conn.; H. P. Hinckley, Cherry-Burrell Corporation, Boston, Mass. Dale Gillespie of the Creamery Package Mfg. Co. was not present when this picture was taken.

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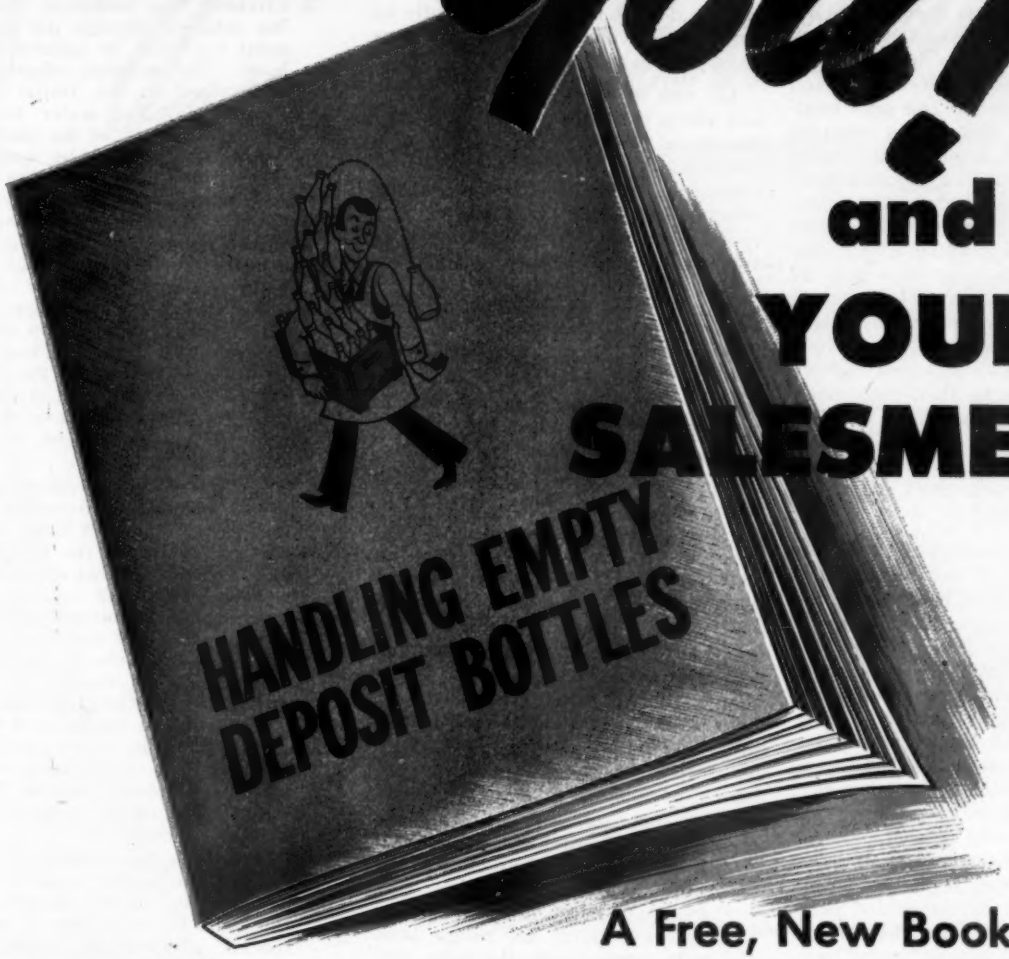

A Free, New Book...

To Help Your Dealers Handle Empties Easily and at Greater Profit

● In order to help grocers with their bottle-handling problems—and at the same time to help our friends in the dairy industry—Owens-Illinois has just prepared a comprehensive new 56-page book, "Handling Empty Deposit Bottles," which is yours for the asking. Copies are available for each of your wholesale salesmen, too.

This book contains a wealth of new and useful information ... down-to-earth facts about bottle handling for your drivers to pass on to their customers. It outlines six popular methods for handling empties in the store and shows simple, easy-to-build equipment for handling returnable bottles ... conveniently ... easily ... at real savings in time and labor. Sorting suggestions and a token plan are included, too.

Send today for your advance copy of this valuable book. Your dealers will thank you for passing on to them the constructive bottle-handling suggestions it contains. JUST FILL IN AND MAIL THE HANDY COUPON.

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MERCHANDISING DIVISION • TOLEDO 1, OHIO
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Please send me a FREE copy of your book—
"Handling Empty Deposit Bottles"

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AMR-7-44

as the proper treatment to bring about perfect cleaning of plate-type short-time pasteurizing units. The initial treatment consists in the application of the proper temperature, concentration, and time of contact, and a special milkstone remover which, while acidic in nature, contains adequate wetting properties, solvent characteristics and other ingredients to insure ready contact, penetration, and solution of the deposit. This prior treatment decomposes the calcium caseinate and other complex, organic salts, leaving it in such a condition as to permit practically complete removal by the subsequent or second treatment. The second treatment is the application of an alkaline type milkstone remover which not only contains necessary water-softening powers but is further enhanced by unique wetting action, peptizing, emulsifying, and deflocculating characteristics. Properly applied, with the right compounds, this double treatment results in a surface which is so free of any deposit that subsequent brushing is seldom necessary and then serves more as a check during the inspection of the plates.

That the dual application saves both time and labor can be well demonstrated by use of the products in a single treatment and subsequent examination of the surface. Where the acid-type milkstone remover is used by itself, the organic contamination can be removed by brushing. This brushing operation, however, is not only difficult but very time-consuming, and because of the large number of plants involved, quite impractical . . . today more than ever before. Application of the special alkaline milkstone remover by itself brings about an action on the organic matter but leaves an objectionable film or deposit which defies any normal brushing operation. Harsh abrasives, scrapers, and mechanical treatment of that sort are generally necessary where only an alkaline milkstone remover is used. The same unit treated the following day by the double method gives results which are well nigh perfect.

Physical Factors

The phyical factors which play a part in the type of deposit formed can sometimes be controlled and sometimes not. For example, the final temperature to which the milk is heated. It has been mentioned previously that milk heated to 165 deg. F. produces a different type of deposit than when milk is heated in the same plate unit to 144 deg. F. The rate of heating is likewise a factor. Slowly heated to 163 deg. F., a different type of deposit is produced than when the milk is rapidly heated to 163 deg. F. The actual area of surface in contact with the milk during heating and cooling is another factor. In plate-type units the ratio of surface area to gallons of milk differs greatly from the ratio of surface to milk in the holding method. A tremendous volume of milk handled in a limited area of equipment in a plate-type unit not only creates a greater amount of deposit at the end of each day's run but the deposit itself will frequently be stratified . . . will consist of several layers of varying composition.

The rate of flow of milk through the unit affects the type and amount of contamination produced. A relatively slow rate of flow gives a heavier deposit which is more uniform in composition over the entire surface of the plates. As the rate of flow increases, less total deposits result but a heavier deposit will generally form on the sides and corners of the plate where the resistance to the flow is greater. There is a tendency for the deposit to be mechanically pushed away or eliminated from those places where the flow is fast and later deposited in those places where the friction is greater and the flow of milk has slowed down.

These and many other factors have been carefully studied, first in the laboratory experimental unit and then when promising results were indicated, actually carried out in the plant where the short-time unit is operated. This twofold investigation has resulted in the development of a cleaning procedure that has given eminently satisfactory results in hundreds of plate-type pasteurizing units in all types of hard-water conditions. The important steps in this cleaning procedure may be conveniently summarized as follows:

1. **Immediately after handling the milk, disconnect the flow diversion valve and shut off the hot water pump.**
2. **Circulate cold water through the unit by filling the Surge tank with water from the hose and keeping the Surge tank overflowing with the cold water. Allow the water to run onto the floor as it comes from the unit. Continue this procedure until the rinse water is free of any traces of milk and the entire unit is cooled down to room temperature.**
3. **Shut off the flow of cold water to the Surge tank and heat the water in the tank to 135-150 deg. F. with a steam hose. Arrange the equipment so that the solution from the unit, which formerly drained to the floor, is circulated back to the Surge tank.**
4. **Add the special acid-base milkstone remover at a concentration of from one pint to one quart to each 40 gallons of water used. The strength to use will depend upon the condition of the plates, the amount of milk handled, and other factors. Enough of the special milkstone remover is used to give the proper concentration to the water contained in the Surge tank, as well as that contained in the unit between the plates and in the various connected pipes and pumps.**
5. **Circulate the milkstone removing solution through the equipment for from 30 minutes to 1 hour. The solution should be maintained at the initial temperature by hot water in the plates. However, at the start the steam hose should be used to bring the solution up to the proper temperature rather than heating it through the deposit on the plates. The use of an ordinary centrifugal-type pump is highly recommended for circulating the cleaning solution. The precision-type milk pump usually employed for handling the milk is lubricated by the fatty matter in the milk and might be damaged through lack of lubrication in the milkstone removing solution.**
6. **After the milkstone removing solution has been circulated for the proper length of time, overflow the water in the Surge or balance tank with hot water from a hose. This will remove the scum and accumulated contamination from the surface of the solution. After the surface contamination has floated off the solution, the outlet pipe from the unit should be removed so that the warm rinse water will be pumped from the balance tank through the plates onto the floor. This rinsing should continue for 10 to 15 minutes.**
7. **Turn off the hot water hose and replace the outlet pipe to the balance tank so that the solution can again be circulated. Add the special alkaline-type milkstone remover to the tank, using 2 pounds for each 40 gallons of water. This solution is heated with a steam hose to 135-145 deg. F.**
8. **The special alkaline-type solution is circulated through the unit for from 30 minutes to 1 hour. The temperature is maintained at 135-145 deg. F.**
9. **Force the alkaline solution from the unit by placing cold water in the balance tank and removing the outlet pipe from the unit. Continue circulating fresh cold water through the unit until the plates are cooled down to at least room temperature.**
10. **Dismantle the pipe lines and open the unit for inspection. A milk solution of alkaline cleaner is prepared in a bucket. The plates are brushed with this solution where necessary. Proper operation of the treatment with**

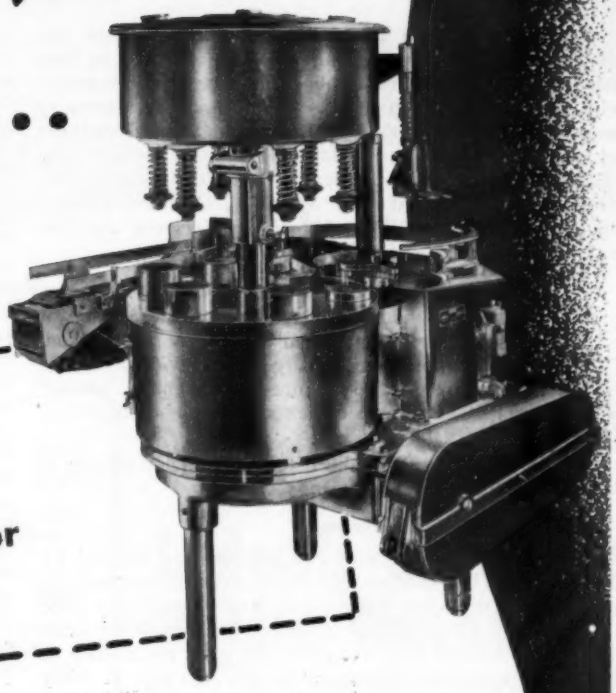
(Please turn to Page 216)

Increased Productio

ASSURED . . .

WITH

Specialty Brass
6 Valve
Automatic Rotary Filler
and Capper



The Specialty Brass 6 Valve Automatic Rotary Filler and Capper is the greatest asset for increased production and savings of man-hours. Cleverly designed with many outstanding features to give you lasting, trouble-free operation, for filling and capping all milk drinks and dairy specialties in any size bottle from ½ pints to quarts. Equipped with quick change-over feature that assures you of continuous, uninterrupted operation. Compact in design to fit your present layout.

For a small additional cost this particular machine can be adapted for two quart bottles and paper containers and can also be equipped with a conveyor mechanism for bottle feeding. Send for Bulletin No. 38 containing complete information.

SPECIALTY BRASS COMPANY KENOSHA, WISCONSIN

Known All Over the World For Cost-Reducing Equipment

Semi-monthly or Monthly Testing

Vermont Agricultural Experiment Station Bulletin Explains How Under Certain Safeguards, Latter Can Replace Former in Manpower-pinched Milk Plants★

★The "Review" is pleased to present herewith the main test of an interesting and informative study of how milk plants suffering from labor shortages may satisfactorily employ monthly instead of semi-monthly testing of composite milk samples. The account of the procedures and results of this experiment, conducted and prepared by Drs. D. W. Whitman, R. O. Slack and E. O. Herried of the University of Vermont and State Agricultural College staff, was issued as Bulletin 502 of the Vermont Agricultural Experiment Station, Burlington.

LABOR saving methods are imperative because the war has imposed a labor shortage on the dairy industry. Composite milk samples are usually tested twice a month. May as accurate results be obtained by monthly testing? May such samples, having been tested once, be satisfactorily retested at a later date?

The literature on the Babock test and related phases of this study has been reviewed (1).

Methods

A nearby milk plant with 113 patrons was selected for this study. The half-pint sample bottles with rubber stoppers used for the first 15-day and for the 31-day composites were washed, rinsed and sterilized by immersion for 30 or more minutes in a solution that contained 200 parts per million of chlorine and whose initial temperature was 120 deg. F. They were dried and to each was added a pulverized No. 4 tablet containing bichloride of mercury. At the end of the first 15-day period, after the tests were completed, the bottles were washed and rinsed but not resterilized before use in the second semi-monthly period.

Each daily delivery of milk made by each patron was stirred in the weigh can for about 5 seconds and then sampled, 15 ml. for the semi-monthly and 7.5 ml. for the monthly composites being taken with a dipper and added to the appropriate sample bottle. After the entire daily sampling procedure had been completed, all bottles were inverted once for 1 to 2 seconds to insure adequate mixing, packed with ice in boxes and held at or below 50 deg. F. until the next morning in the refrigerator at the creamery.

The preserved composite samples were prepared for testing by warming to 95-100 deg. F. in a water bath at 107-110 deg. F. Any adherent cream was carefully brushed loose. Samples were mixed by pouring 4 times. The warmed milks were then pipetted into the test bottles and cooled to 70 deg. F. before sulfuric acid at 70 deg. F. (sp. gr. 1.82-1.83) was added. The Babock procedure was conducted according to official methods except that 15 instead of 17.5 ml. of acid were used, the writers having found that the smaller charge yields a clear fat test. The milk and acid were mixed with a Cherry-Burrell shaking device and the full number of test bottles whirled in a 24-bottle, electrically operated and heated centrifuge, equipped with a thermostat that shut off the current at about 144 deg. and turned it on again at about 132 deg. F. The tests, one bottle each, were read with a special device which permits easier and more accurate estimation than ordinarily is secured (2). All tests were read to 0.025 per cent, but for the purpose of this study were recorded to the nearest 0.1 per cent. These samples, taken and cared for at the creamery, were prepared and tested in the station's dairy laboratory and each fat column read by 2 technicians; however, the records of only 1 were used, except for a comparison to show the accuracy of their readings. The samples were carefully looked over for stability of the fat emulsion and for the presence of mold growth. Purposely the work was done during August, the warmest month in the year.

The total intake of milk fat, calculated from preserved semi-monthly and monthly composite samples thus taken, prepared and tested, is shown in table 1. The two technicians, A and B, reported 0.52 and 0.49 per cents respectively less total fat for all patrons when monthly replaced semi-monthly composites. The differences in the amounts indicated to be present when semi-monthly and monthly composites were tested were determined for each patron (Appendix, table 1.)

(Please turn to Page 210)

An Invitation from REX COMPANY to acquaint you with the latest methods in food plant sanitation

★ **MIKRO-SAN** U. S. PAT. NO. 2,330,698 — The original acid cleaner for can washing and general cleaning.

★ **REX MILKSTONE REMOVER FOR TINNED EQUIPMENT** U. S. PAT. NO. 2,330,698 — Formerly known as formula 1029-1—The safe cleaner for removing milkstone and waterstone from all tinned surfaces.

★ **REX MILKSTONE REMOVER FOR STAINLESS STEEL** U. S. PAT. NO. 2,330,698 — An extreme active and effective cleaner for such difficult jobs as stainless steel deodorizers, pasteurizers, etc.

★ **REXCO-PHOS** — Formerly known as No. 372-2—A safe and active cleaner for general use wherever a good alkali cleaner is needed.

★ **REX ACID INHIBITOR** — For use in descaling bottle washing and can washing machines safely with no danger of freezing or sticking the machine.

★ **EXCELCIDE VAPO SPRA** — A specially fortified product that kills roaches and all insects by inducing both a respiratory and a leg paralysis.

★ **EXCELCIDE REPEL MIST** — A non-poisonous insect repellant—Kills insects by leg paralysis. A non-volatile liquid and will remain on the surface for a long period of time and remain effective.

★ **DOW METHYL BROMIDE** — For gas fumigation of food plants.

A booklet describing in detail all of the above sanitary products and the methods of application will be sent upon request.

THE REX CO., BURLINGTON, IOWA

J. H. ERB JOINS BORDEN

Formerly Assistant Professor at Ohio State University

Appointment of J. Hoffman Erb as assistant director of production for the Mid-West District of the Borden Company has been announced by Norval D. Goss, chairman of the district.

J. H. Erb

Formerly assistant professor in the dairy technology department of Ohio State University, Mr. Erb has resigned that position after a year's leave of absence during which he supervised research in the Borden laboratories in Columbus, Ohio. Widely known in the ice cream industry, his interest recently has been mainly directed toward work on sweeteners as wartime sugar replacements.

Mr. Erb is a native of Harrisburg, Pennsylvania, and received a Bachelor of Science degree from Pennsylvania State College. He also received a Master of Science from Ohio State University and has done graduate work at the University of Wisconsin and the University of Chicago. He is a member of the American Dairy Science Association, secretary of the Cleveland Dairy Technology Society and a member of the American Association for the Advancement of Science.

COLLECT DELAYED PAYMENTS

Almost $200,000 to Be Distributed to Cooperative Members

The Eastern Milk Producers' Cooperative Association was informed June 7, that a 1941 suspension of cooperative payments to it had been lifted and that its members will collect the money which had been held in reserve.

C. J. Blanford, Federal-State market administrator of the New York Metropolitan Milk Marketing Area, made this assertion at the organization's annual meeting. It is estimate that the delayed payments of ¾c a hundredweight, would total nearly $200,000.

The payments, amounting to a subsidy payment from producer funds by the Administrator, were suspended in December, 1941, after the Federal Trade Commission filed a complaint charging that the Sheffield Farms Co. dominated the Eastern Producers' Association.

Further, in connection with the statement about lifting the suspension of payments, Mr. Blanford declared that "the record has disclosed that your association has many infirmities as an organization of producers."

Non-clogging Nozzles

Description of Nozzle Diagram Shown Above:

(A) Jets have ¼" standard pipe thread.

(B) Round extension extends into cleanest part of header chamber, eliminating possibility of floating dirt entering jet openings.

(C) Three water entrances provided to jets. Help assure reliable operation, because all three jet openings must become clogged before jets will fail to work satisfactorily.

(D) Tapered outlet permits any dirt which might pass through inlet ports to be easily and readily blown out the larger discharge end by means of the pump pressure.

(E) Removal of all jets from washer easily accomplished thru openings in the side of the machine.

(F) Blow-off plug easily removed to periodically flush sludge from jet header chamber.

....one of the features that assure you trouble-free operation

with HEIL Ladewig and Soelch Bottle Washers....

Today, when continuous, dependable operation means more than ever before, Heil Quality-Built construction is justifying the choice of Heil owners everywhere . . . Construction that includes such money-saving features as non-clogging nozzles, wire bottle pockets, positive automatic stops, few and slow-moving parts . . . Exclusive 4-compartment design that provides a separate pressure washing tank to eliminate frequent costly changes of solution, by keeping out dirt; to cut down costly bottle breakage, by providing an intermediate temperature drop . . . That provides a separate tank for alkali removal rinse, to prevent troublesome, clogging lime deposits in pipes and pumps; to deliver sterile, clean bottles unclouded by lime deposits . . . At a minimum of manpower and electric power — and with low over-all costs.

Order now for a head start on your post-war equipment plans — or, if eligible under present U. S. Government program, specify "Heil Ladewig & Soelch Bottle Washer" on your application. Write for information on priorities and deliveries.

W-70

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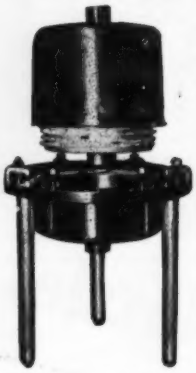
GENERAL OFFICES • • MILWAUKEE 1, WISCONSIN

STAMSVIK COLD MILK FILTER

For Top Efficiency in All Types of Filtration



COMPLETE, rapid and economical filtration.

EFFICIENCY, removes all dirt, milk cannot by-pass.

SIMPLICITY, simple in design, easy to install.

SANITARY, embodies the most improved sanitary features, all parts are accessible and quickly removed for thorough cleaning and sterilization.

The STAMSVIK MILK FILTER is used by more than 1600 leading dairies for filtering cold milk, hot milk, hot cream, evaporated milk and for milk to be powdered. Prompt delivery of filters made with proper priority.

We carry a complete stock of filter pads for cold milk, hot milk and cream. Flannel cloth, medium and heavy, napped on one side only or both sides. Gauze cloth, medium and heavy—two layers with loose cotton between. Pads available for immediate shipment. Write for price list.

Filters and Pads Handled by Leading Jobbers

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Ingredients of
Tryptone Glucose Extract Milk Agar

Bacto-Tryptone is recommended in "Standard Methods for the Examination of Dairy Products" of the American Public Health Association as an ingredient of the tryptone glucose extract milk agar used for plate counts of milk. This peptone is particularly suitable for the nutritional requirements of bacteria found in dairy products.

Bacto-Beef Extract is also approved in "Standard Methods" for preparation of the medium used for plate counts of bacteria in milk. In the concentration employed Bacto-Beef Extract has a reaction of pH 6.8.

Bacto-Skim Milk is recommended as a standardized skim milk to be added to the medium when dilutions of milk greater than 1 to 10 are plated.

DIFCO LABORATORIES
INCORPORATED

DETROIT MICHIGAN

Semi-monthly or Monthly Testing

(Continued from Page 208)

These differences were divided by the amounts of milk fat indicated by the semi-monthly composites and calculated to a basis of the percentage of the total (table 2). When the results secured by semi-monthly and monthly testing are compared, 92 of the 113 deliveries differed by less than 2 per cent of their total milk fat contents, 15 by less than and only 6 by more than 3 per cent. In other words, agreement was secured in four-fifths of the cases within the limits of accuracy of reading the Babcock test in most dairy plants. For example, a difference of 0.1 per cent in reading represents 2.5 per cent of the fat in milk containing 4 per cent of milk fat (0.1 ÷ 4 x 100 = 2.5 per cent). From the standpoint of both creamery and patrons, so small a divergence should not discourage the use of monthly milk composites, especially when a shortage of labor exists.

TABLE 1

Total amount of milk fat delivered by 113 creamery patrons as determined from preserved semi-monthly and monthly composites*

	Semi-monthly			Monthly		
	First 15 days	Second 16 days	Total	31 days		
	Pounds milk fat			Pounds milk fat		
					Difference from semi-monthly	Percentage of semi-monthly
A	20504.8	21297.8	41802.6	41584.2	—218.4	99.48
B	20503.6	21276.0	41779.6	41576.8	—202.8	99.51
B—A	—1.2	—21.8	—23.0	—7.4	—	—

*Complete data showing effects on individual patrons in appendix table 1.

Monthly testing of composite milk samples can replace semi-monthly testing in milk plants when labor shortage exists without doing serious injustice to plants or patrons, provided the samples are:

1. **Kept in clean and tightly stoppered bottles at or below 50 deg. F. except during the few hours each day that they are in the room where milk is being weighed and sampled.**
2. **Kept free from mold growth.**
3. **Are properly prepared prior to pipetting.**

If thus handled composite milk samples which have been tested once may be reprepared and retested once after holding 48 hours with fair assurance that the results will be comparable with those previously secured, so be it they have been kept in the meantime under similar conditions. Further retests are apt to yield significantly lower results.

TABLE 2

Frequency distribution of differences in percentages of total milk fat with monthly and with semi-monthly composite milk samples of 113 creamery patrons

Differences in total milk fat	Comparison with semi-monthly Monthly				
Percentages	Above	Agreed	Below	Totals	
0.0-0.99	13	20	13	46	40.7
1.0-1.99	19		27	46	40.7
2.0-2.99	3		12	15	13.3
3.0-3.99			4	4	3.5
4.0-4.99			1	1	0.9
5.0-5.99			1	1	0.9
	35	20	58	113	100.0

The physical condition of both sets of composites was excellent. During preparation for testing the fat emulsion remained stable. A little mold growth appeared on the bottom of the rubber stoppers of 2 monthly composites, but all

semi-monthly samples, in both sterilized and unsterilized bottles, were free of visible mold growth. On the other hand almost all of the semi-monthly preserved composites taken by the creamery tester showed mold growth. Many Vermont dairy plants experience this difficulty, especially during warm weather. The effect of molds, of certain bacteria, or a combination of both and their fat splitting enzymes on the milk fat in preserved composite samples needs further study.

The composite samples could not be kept cool during the day, because necessarily they were taken out of the cold room and exposed to higher temperatures every morning while the deliveries from creamery patrons were being received. To ascertain to what extent temperatures rose during this time, a control bottle half filled with water, a thermometer inserted through its stopper, was kept with the composites at all times. The temperature of its contents was recorded daily as it was taken out of and returned to the cold room at about 11 a.m., after all milk deliveries were completed. The greatest increase was recorded on August 16, the warmest day in the month. For comparative purposes the daily 11.30 a.m. temperature readings taken at the Federal Weather Bureau in Burlington, 8 miles from the creamery, are included (table 3).

TABLE 3

Initial and final daily temperatures of water in the control bottle during sampling. Comparable temperatures at federal weather bureau, Burlington, Vt.

Aug. 1942	At milk plant 6.30 a.m.	At milk plant 11 a.m.	At Weather bureau 11.30 a.m.	Aug. 1942	At milk plant 6.30 a.m.	At milk plant 11 a.m.	At Weather bureau 11.30a.m.
3	53	70	71	18	54	73	74
4	50	69	72	19	54	73	69
5	51	67	67	20	56	78	78
6	48	70	68	21	55	79	81
7	48	67	70	22	55	80	82
8	47	67	77	23	57	76	74
9	50	69	62	24	56	61	54
10	52	73	71	25	50	64	61
11	53	72	75	26	46	64	62
12	52	69	73	27	45	65	71
13	52	72	79	28	47	67	62
14	52	72	67	29	50	68	72
15	53	71	75	30	50	69	71
16	48	81	83	31	52	69	75
17	58	77	75	Avg.	52	71	71

[1]In this connection see Pamphlet 2 (1943) wherein is set forth a feasible means of controlling mold growths in composite milk samples.

Retests of Composite Samples

State inspectors and similar officials are charged with the responsibility of enforcing testing laws. They often check composite samples within 4 days after the creamery operator has completed his testing or within 7 days following the end of the sampling period, an interval now lengthened by a recent Vermont ruling to 12 days. In doing this they must again prepare the samples for testing. The question is often asked: "Can accurate results be obtained when composite samples are reprepared and retested?" In order to obtain information, the semi-monthly (second period) and monthly composites of 48 patrons were handled as follows:

I. Each sample was prepared and pipetted into 4 test bottles—Control series
   1. Tested immediately
   2. Tested on the second day, after 48 hours
   3. Tested on the fourth day, after 96 hours
   4. Tested on the seventh day, after 168 hours

   2, 3 and 4 were held at or below 50 deg. F., test bottle necks being tightly covered with parchment paper to prevent evaporation and contamination.

II. Same samples, stored at or below 50 deg. F., were reprepared and tested on the second day (48 hours). They were then at once once replaced in storage.

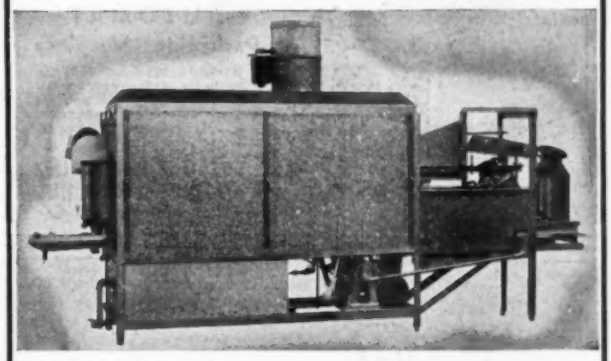
III. Same samples, stored at or below 50 deg. F., were for the second time reprepared and tested on the fourth day (96 hours). They were then at once replaced in storage.

There's a DAMROW CAN WASHER to fit YOUR Plant . . .

(CAPACITIES FROM 2½ TO 14 CANS AND COVERS PER MINUTE)

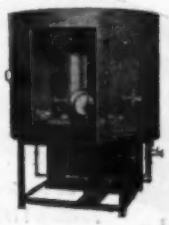
EVERY DAIRY, large or small, can enjoy the time-saving, power-saving, labor-saving advantages of a DAMROW Can Washer! Whether you need only two or three cans washed per minute, or your capacity runs up to 14 cans per minute, there's a DAMROW to fit your needs exactly. Only DAMROW offers such a COMPLETE selection—and they're all built to the same standard of proved superiority in performance.

SIX STRAIGHTLINE MODELS . . .



Damrow Straightline Washers are recognized at the most efficient and dependable available. Six models are rated 4, 5, 6, 9, 12, and 14 cans and covers per minute. Actually each one is equal to other washers rated TWO CANS HIGHER (i. e., 6-can Damrow equals other 8-can washers). Ask a Damrow engineer why this is so! (Illustrated—Straight-6 Model 6 cans and covers per minute.)

FIVE ROTARY MODELS . . .



Compact, efficient, low priced Damrow Rotary Washers are made in capacities of 2½, 4, and 6 cans and covers per minute, with loose or linked covers. The small Type "R" 2½ can washer is the greatest little labor saver on the market for those plants requiring a hand operated washer of this type. Other power rotary types compare favorably with the Straightline types — handle all types of containers.

ALL DAMROW WASHERS use the famous COLD AIR DRYING method.

Write for bulletins on the exact size and capacity of washer you need. You always benefit by DAMROW can washing!

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Both Built to "take it"
PLANES AND DOERING BUTTER PRINTERS
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The stamina and all-around efficiency of Doering machines have stamped them as a butter plant essential all over America. Can we serve you?
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IV. Same samples, stored at or below 50 deg. F., were for the third time reprepared and tested on the seventh day (168 hours).

The results of retesting these composites are summarized in table 4 (detailed data for individual patrons in appendix table 2). When they were first prepared and the control milks pipetted into the 4 test bottles, the amounts of milk fat agreed closely as indicated by testing immediately and on the second, fourth and seventh days, being slightly closer with semi-monthly than with the monthly composites. It is evident that preparing composite samples once, pipetting immediately into test bottles and storing them at or below 50 deg. F. for 7 days had no significant effect on their milk fat contents.

When the composites were reheated and reprepared at intervals of 2, 4 and 7 days, an insignificant increase was shown by the second day retests, but there was a gradual decrease in the amount of milk fat indicated on the fourth and seventh day retests for both semi-monthly and monthly samples (tables 4 and 5).

It should be recognized that these successive retestings constitute a more drastic procedure than would be followed under practical conditions. In dairy plants, composite samples might be reprepared and tested a second time by inspectors,

TABLE 4

Effect of method of preparation and storage on the amount of milk fat indicated by tests of preserved semi-monthly and monthly composite samples, 48 creamery patrons*

Tested	48 semi-monthly composites				48 monthly composites			
	Preparation of samples							
	Prepared once		Reprepared and tested		Prepared once		Reprepared and tested	
	Pounds fat	Percent	Pounds fat	Per cent	Pounds fat	Percent	Pounds fat	Percent
Immediately	10,080.0	100.00			19,417.4	100.00		
On 2nd day	10,033.4	99.54	10,072.9	99.93	19,274.3	99.26	19,448.6	100.16
On 4th day	10,011.4	99.32	9,935.3	98.56	19,281.0	99.30	19,056.7	98.14
On 7th day	10,043.9	99.64	9,757.9	96.80	19,286.2	99.32	18,961.4	97.65

*Complete data in appendix table 2.

TABLE 5

Distribution of results of retests on preserved composite milk samples; comparison with results secured by immediate testing

	Comparison with those tested immediately		
	Agreed	Higher	Lower
Composite retested on:			
Second day —Semi-monthly	35	6	7
Monthly	29	11	8
Fourth day —Semi-monthly	16	4	28
Monthly	18	3	27
Seventh day—Semi-monthly	6	1	41
Monthly	15	1	32

but only in disputed cases should they again be retested, since slightly lower readings are likely to be secured.

Conclusions

If preserved composite milk samples are kept in clean, sterile bottles at 50 deg. F., or less, in good physical condition, free from mold growth and are properly prepared, sampled and tested by the Babcock procedure:

1. Semi-monthly composites yield slightly more milk fat than monthly composites, but the difference is so small that testing can be done monthly without material injustice to the patrons or to the plant.

2. Semi-monthly and monthly composites can be reprepared and retested once, after holding for 48 hours, and the results will be reasonably comparable with those secured from tests made at the end of the sampling period. Significantly lower results are apt to be obtained if composite samples are reprepared and retested a second or a third time.

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1. Herreid, E. O. The Babcock test: A review of the literature. Jour. Dairy Sci., 25: pp. 335-370. (1942.)

2. ———. A more precise method of estimating fat in the Babcock test. Jour. Dairy Sci., 23: pp. 526-527. (1940.)

Improved Chocolate Products

Robert A. Johnston Company Readies New Dairy Drink Powders and Flavoring for Ice Cream

IMPORTANT improvements in flavor and ease of handling chocolate dairy drink powders will greatly increase public demand for chocolate-flavored dairy drinks, according to N. J. Russell, Robert A. Johnston Company production superintendent, who recently pointed out new taste and easy mix developments.

Production superintendent N. J. Russell checks timing on 10 test batches as laboratory assistant records temperature of chocolate-flavored dairy drink.

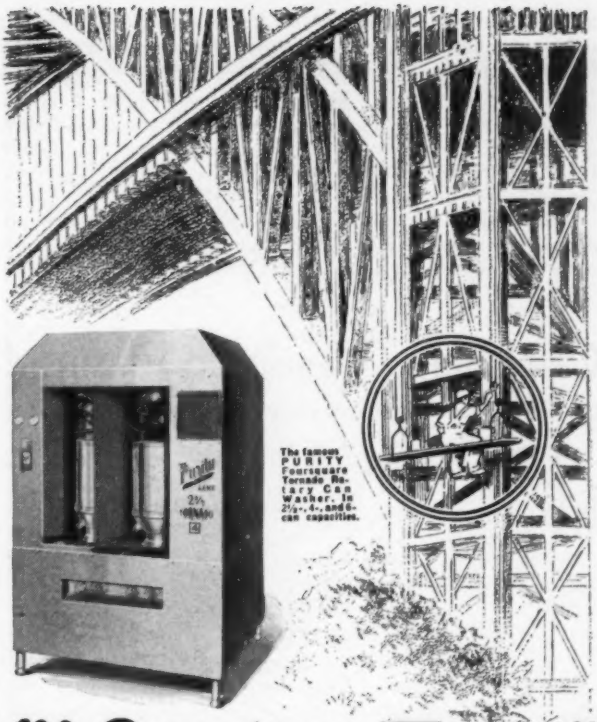
"Dairies can be assured of a chocolate-flavored drink that is not only simpler and easier to make, but also more pleasing to their customers' taste than ever before," said Mr. Russell.

Laboratory experiments which have been under way continually at Johnston's plants both in Milwaukee and New

E. C. (Ned) Johnston as he watches experimental cocoa "press cakes" being prepared by research chemist R. N. Bauer in the company's laboratories at Milwaukee.

York have been directed for more than a year toward offering dairies an easier-to-use, better-tasting chocolate-flavored dairy drink powder. The company states that it has been perfected and is ready for production as soon as war conditions make material and new machinery available.

E. C. (Ned) Johnston who heads the company's laboratory staffs speaking on the future use of chocolate flavoring



"A Stitch-in Time!"

SWINGING dizzily up on the girders, hour-after-hour, every sweep of the painter's brush is "a stitch — in time."

Able to carry the mightiest locomotives and the heaviest trains with ease. But snows, frosts, sleet, rain and torrid summer sun soon do their work on the tough steel. And, but for protective care, the great bridge soon must succumb to the ravages of time.

So with O. & B. PURITY Milk Handling Equipment. Probably no more trouble-free or durable machines of their kind have ever been built. Correct design and the finest materials and workmanship obtainable have given our Washers, Pasteurizers, Vats and Coolers a world-wide reputation for never-say-die service.

For years-on-end in your plant they may have been "delivering" faultlessly. You may even have forgotten them entirely. But eventually, without proper care, *they will wear out.* And right now's an exceedingly awkward time to have that happen.

So remember, please, that a little attention now and then — an occasional inspection, and regular lubrication — the "ounce of prevention that's worth a pound of cure" — and your PURITY Equipment will last you *years longer.*

Repairs and replacements always available — better consult us *in plenty of time.*

6

O. & B. Purity

OAKES & BURGER CO., INC.

Milk Handling Machinery and Supplies

Cattaraugus, N.Y. - Youngstown, O., U.S.A.

EST. 1873 - MORE THAN SEVENTY YEARS OF HONEST EQUIPMENT

in ice cream said, "Richer flavor, better color, easier working and preparation are among the advantages of the new cocoa flavorings perfected in the Johnston laboratories."

The improved cocoa is only one of several better Johnston products which the company has made ready as a practical approach to "post-war planning," convinced that the "better world" of tomorrow will only come if each man and each company does his individual job better right now.

Exact date for release of the new product cannot be set at present, but full information will be given to the dairy industry as progress is made on this important development.

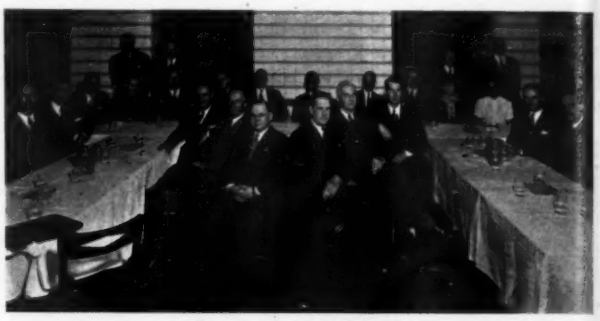
Chocolate Research Planned

Leading Manufacturers and Scientists Confer Under Auspices of National Dairy Council

HOW does chocolate supplement dairy foods in the American diet? The answer to this question and many other related subjects formed the basis of an all day meeting in Chicago on May 24 of leading chocolate manufacturers and research workers. The conference was arranged by the National Dairy Council in its capacity as one of the leading research organizations of the dairy industry.

Dr. C. A. Elvehjem, Professor of Bio-Chemistry at the University of Wisconsin, reviewed his current work on the influence of chocolate milk on the growth of young animals. Dr. H. H. Mitchell, Professor of Animal Nutrition at the University of Illinois, discussed future research projects involving chocolate added to milk and ice cream, and Professor H. G. Brown, of the University of Chicago, outlined current research studies on chocolate in dairy foods now being conducted under his direction in the School of Business of that institution. Mr. Armand P. Ruderman, who is carrying out the work at the University of Chicago, also addressed the conference.

It was the consensus of the group that the scope of the



NATIONAL DAIRY COUNCIL PHOTO

(Left to right), L. H. Weiner, Borden Company; Geo. F. Gallagher, Krim-Ko Corp.; R. A. Sampson, Krim-Ko Corp.; Miss Herta Breiter, National Dairy Council.

(Standing) Paul Sweazer, Rockwood Co.; (standing), D. H. Wing, Robert A. Johnston Co.; Prof. George H. Brown, University of Chicago; Mr. Armand Ruderman, University of Chicago; Dr. H. H. Mitchell, University of Illinois; Milton Hult, National Dairy Council; Dr. C. A. Elvehjem, University of Illinois; Dr. R. F. Korfhage, Lamont, Corliss and Company; Mrs. E. A. Martin, National Dairy Council; Mrs. M. Hess, Krim-Ko Corp.

(Standing), B. L. Maizel, Chocolate Products Co.; (standing), Neal D. Kelley, National Dairy Council; H. B. Burrows, Lamont, Corliss and Co.; J. W. Erickson, Chocolate Products Co.

(Center, left to right), D. F. Bowey, Bowey's, Inc.; Gordon Lamont, Lamont, Corliss and Co.; Dr. A. D. Pashkow, Chocolate Products Co.; H. G. Day, Rockwood Co.; Karl W. Karnopp, Kalva Corp.; Karl W. Karnopp, Jr., Kalva Corp.

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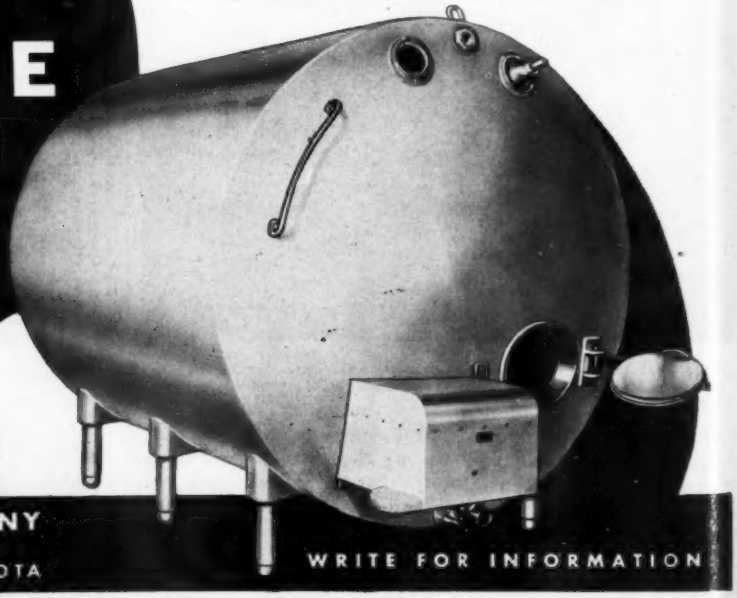
Certified
STAINLESS STEEL
MILK
STORAGE
TANKS
AND OTHER
DAIRY
EQUIPMENT

MANUFACTURERS OF
TRUCK AND TRAILER TANKS
STORAGE TANKS
RECEIVING VATS
WEIGH CANS
HOT WELLS
AND
MISCELLANEOUS STEEL TANKS
FOR GENERAL PURPOSES



Stainless Steel
PRODUCTS COMPANY
1000 BERRY AVENUE
SAINT PAUL MINNESOTA
WRITE FOR INFORMATION

present research on chocolate should be broadened and extended. The members of the conference also agreed that a strongly positive approach should be made wherever possible in the studies to be undertaken.

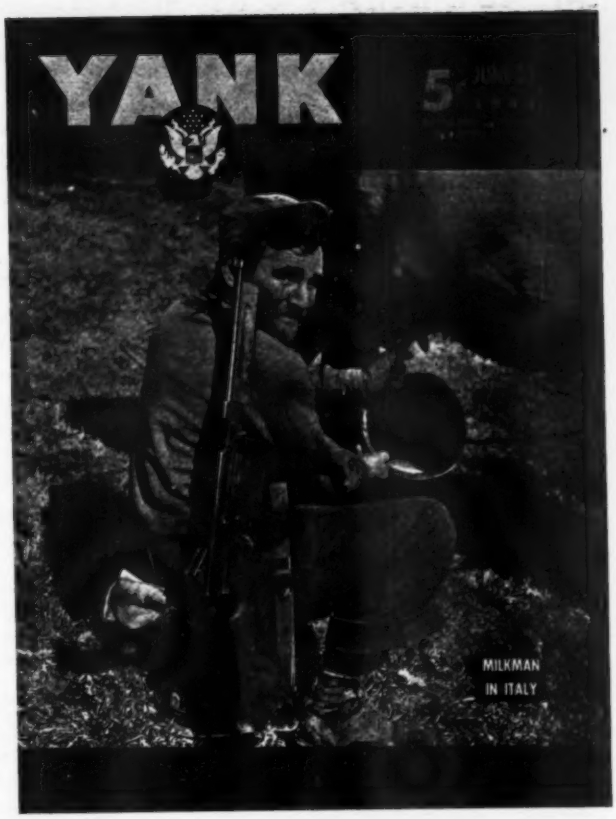
The organizations represented were Krim-Ko Company, Chicago; Chocolate Products Company, Chicago; Robert A. Johnston, Milwaukee; Walter E. Baker Company, Dorchester, Massachusetts; Bowey's, Inc., Chicago; Lamont, Corliss & Company, New York City; Ambrosia Chocolate Company, Milwaukee; Bradway Chocolate Company, New Castle, Indiana; Kalva Corporation, Waukeegan, Illinois; and The Borden Company, Chicago.

A Doughboy Gets the Milk

That milk is highly desired by servicemen on active fronts and that they will go to much effort to obtain some is evidenced by the photo illustrated on the front cover of this issue of the "Review". It shows resourceful Granville (Shorty) Harper effectively using his G. I. helmet as a milk pail in the area near Anzio, Italy.

So unusual and interesting did the editors of "Yank" consider this scene that they reproduced it on the front cover of the servicemen's publication June 23 (shown to the right), and it is through the courtesy of "Yank" that the picture of Soldier Harper at his impromptu milking adorns the "Review".

This picture of "Shorty" Parker effectively illustrates again the widespread popularity of milk among American servicemen in all parts of the world who, it is confidently expected, will demand increased quantities of milk and dairy products when they are discharged and return to more peaceful pursuits at home.



OF COURSE YOU'LL WANT THE NEW L-W TESTER. Deliveries deferred temporarily owing to war restrictions... It's well *worth waiting for*, as you've never seen anything like it. It's simply supreme, so get your order in immediately.

Milt King Says – **"BE SATISFIED with Nothing Less than the NEW, MARVELOUS, TIME-SAVING L-W AUTOMATIC MECHANICAL MILK SEDIMENT TESTER"**

The Tester is now perfected and will completely outmode any of the old-style manual testers. It will become the sensation of the dairy industry for its greater speed, accuracy of results, economy, and ease of handling. It is a MUST for the up-to-date dairyman.

SEDIMENT TESTING SUPPLY COMPANY
20 EAST JACKSON BLVD., CHICAGO, ILLINOIS
EVERYTHING YOU NEED FOR MILK AND CREAM SEDIMENT TESTING
—WORLD'S LARGEST DISTRIBUTORS

Cleaning and Sterilizing

(Continued from Page 206)

proper selection of the products used will produce results so that at best only very light brushing is required, and in most cases a rinse with a hose will remove the last traces of the softened contamination.

11. Rinse the plates thoroughly with warm water. The unit is then reassembled, ready for the sterilizing treatment the following morning.

Sterilizing Plate-Type Units

Where conditions permit, it is of definite advantage to circulate the acid-type solution through the water side of the plates in both the heating and final cooling sections. This treatment will prevent the build-up of even a slight amount of rust film or water scale which naturally interferes with the efficient transfer of heat or refrigeration. With some units a by-pass arrangement is available which makes it possible to conveniently circulate the solution in this way. With other units, special hook-ups are necessary.

If the cooling section of the unit is operated with brine instead of cold water, the brine should always be drained before circulating the hot cleaning solutions. Brine is generally quite corrosive to stainless steel even at low temperatures . . . if left between the plates during the treatment with the hot milkstone removers, the corrosive action is increased many times and severe difficulties are apt to be encountered. Drain the brine from the unit, rinse it with fresh water where possible, and then circulate the special milkstone removing solutions through the brine section.

The sterilizing of short-time pasteurizing units does not differ greatly from the sterilization of other types of dairy equipment. It is very important that the equipment be thoroughly cleaned before we can expect effective sterilization. This holds regardless of whether the equipment under consideration is a vat, a cooler, a pipe line, or a plate-type pasteurizer. The use of chlorine is generally recommended for sterilizing this equipment and is readily applicable in plate-type units as well. A solution of 100 p.p.m. available chlorine, or whatever strength is required by local health department regulations, is readily circulated through the unit. A sufficient quantity of the sterilizing solution is prepared so that five minutes' contact time, the normal recommendation of most health departments, will result.

The temperature at which the chlorine sterilizing solution is used brings in one precaution as compared with sterilizing a weigh tank or vat. With chlorine sterilizers of the quick-acting type, the solution is generally used at room temperature as it is practically as effective in a cold solution. With the short-time pasteurizer, however, the temperature of the chlorine solution must be maintained at the same temperature which is used in handling the milk. This permits the flow diversion valve to remain open so that the solution will flow through the unit, as will occur when handling milk. If the chlorine solution is used at a low temperature, the flow diversion plate-type valve would cut in, causing the solution to be by-passed back to the balance tank and thereby keep it from flowing through to the cooling section of the unit.

Because of the high temperature necessary with the chlorine sterilizing solution, it is important that one be selected which is not only stable at the temperature used but which is also completely non-corrosive to stainless steel and other metals involved in the equipment at the temperature and concentration employed.

Pin Point Bacteria

The plate-type pasteurizer, like any other piece of dairy equipment, may be a source of contamination unless properly cleaned and sterilized. This is particularly true in the case of thermoduric or heat resisting organisms. While it is possible to destroy such organisms with steam or hot water methods of sterilization, such treatment frequently involves many practical operating difficulties. Steam and hot water leave much to be desired when used for sterilizing plate-type pasteurizers. One common fault in the use of hot water for sterilizing, for example, is the failure to maintain the water hot enough to actually destroy bacteria throughout the entire unit. While it is a simple matter to use the heating section of the plate unit to heat the sterilizing water up to 165 or 175 deg. F., many operators fail to take into consideration the fact that this is the temperature of the water only at the heating end of the unit. Temperatures will be considerably lower in the other sections just as the temperature of the milk is lower when it is handled in these sections. It is generally recognized that it is necessary and important to sterilize preheating, regenerative and cooling sections of the plate-type unit as well as the heating section. When the chlorine method of sterilizing the unit is employed, it is only necessary to have the temperature of the chlorine solution up to 161 to 165 deg. F. at the flow diversion valve.

Another perhaps more important matter to consider is the resistance of thermoduric organisms to destruction by heat alone. Tests now being conducted at various Agricultural Experiment Stations and not yet published have shown that a temperature of 170 deg. F. in contact for one hour will not destroy certain resistant types of thermoduric organisms. Treatment of the same strain, however, with chlorine at the normally recommended concentration and time of contact brought about complete destruction. Further, the organisms used in these studies show a tendency to develop immunity to treatment by heat. Evidence so far available indicates quite

TRIPLE DUTY

caps can be removed from a bottle of milk.
THAT'S SOMETHING!
Write us for samples
OHIO BOTTLE CAP CO., PIQUA, OHIO

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Let's Back the 5th
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War Loan Drive
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Buy More Bonds
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conclusively on the other hand that no such immunity is developed towards chlorine.

The cleaning and sterilizing of electric-type units has also been carefully studied. With these special units it has been shown that the type of deposit produced is generally of such a character that circulation of a solution of the special acid-base milkstone remover will properly take care of conditions without the use of the alkaline milkstone remover. With the special acid milkstone remover, which is extensively used in many plants, a concentration of one-half pint to nine gallons of water gives a solution of the proper electrical characteristics. Nine gallons of the solution are sufficient to accomplish circulation through the unit. The sterilizing solution prepared from the special non-corrosive, stable, quick-acting chlorine sterilizer is made up at the rate of six ounces to nine gallons of water. This solution also has the necessary electrical characteristics to bring about effective results in the electric pasteurizer. It also, of course, has proper germicidal strength to destroy bacteria.

MONO BOND DRIVE ON D-DAY

The 5th U. S. War Bond Drive of Mono Employees opened on June 6th and happened to coincide with D-Day. In view of this, exercises in the Cafeteria were opened with prayer followed by guest speaker, Coast Guard Warren Wilson, RM/2C, who has seen service in North Africa, Sicily, Salerno and England. Wilson stressed the importance of backing up the efforts of the Army and Navy overseas by purchasing War Bonds.

Bonus Presentee Stamps were awarded to thirty employees who had maintained perfect attendance for the past six months. Mr. Harry Wootton, Mr. W. C. Perdue and Mr. S. O'Connell spoke during the meeting.

NEW SCHWARTZ OFFICERS

Filter Manufacturing Company Celebrates Twenty-Fifth Anniversary

Simon Schwartz, founder and president of Schwartz Manufacturing Co., Two Rivers, Wis., announces newly selected officers, executive and sales personnel: Simon Schwartz, president and general manager; B. W. Schwartz, vice-president; E. L. Merow, secretary and treasurer; T. R. Sullivan, sales manager; A. H. Zoerb, factory superintendent.

Also appointed were the following sales representatives: D. D. Jackson, New England; Clyde A. Fowler, Eastern States; D. E. Scisinger, Central States; Berry Holland, Southern States; Norman J. Kestner, West Coast.

Major H. G. Travis and Pvt. Joseph Burns, both old timers in the Sales Department of the Schwartz Co., are at present on leave of absence, serving in the armed forces.

The Schwartz Company, long established manufacturer of milk filter discs, makes Perfection milk filter discs, Blue-Streak milk filter flannels, Fray-Seal cheese bandages, and many other cotton goods products used in the dairy industry.

During 1943, the Schwartz film manufactured and shipped over a billion pieces of cotton material used as gun cleaners by the armed forced and now is laying extensive plans for postwar development and expansion.

This year marks the company's twenty-fifth year of continuous service.

FOOD PRICE INDEX

Dun & Bradstreet's wholesale food price index for the week ended July 4 is reported as $4.01, a rise of 1 per cent from the $4.00 level of the previous week and comparing with $4.05 in the corresponding week of 1943. The index reflects the aggregate price of 31 foods in general use.

Now You Can Get PRE-WAR QUALITY DEODORIZED INSECTICIDE

No substitutes. We are now able to furnish the butter, cheese and milk industries with *Deodorized* FLY-TOX in 1-gal. cans, 5 gal. drums and 55-gal. drums. Strictly pre-war quality.

AVAILABLE THRU DAIRY SUPPLY JOBBERS AND DRUG, GROCERY AND HARDWARE WHOLESALERS

Get in touch with your nearest wholesaler and reserve your full season's needs now. The supply is limited. If your nearby wholesaler doesn't have *Deodorized* FLY-TOX in stock, write us and we will see that you are supplied.

Rex Research Corporation
Toledo 7, Ohio

Deodorized FLY-TOX
KILLS MOST INSECTS

THE MILK CANS of YESTERDAY TODAY and TOMORROW

Each passing year since 1865 has given us an opportunity to make better Milk Cans and to justify the confidence of our customers and friends. To this principle we dedicate our present and future effort.

SOLAR-STURGES MFG. CO.
MELROSE PARK, ILLINOIS

FOGG SUCCEEDS NEUMEISTER

Appointed Manager of Cherry-Burrell Milwaukee Factory

J. W. Fogg, well known general sales representative of the Cherry-Burrell Corporation, Chicago, has been appointed general manager of the company's Milwaukee factory, according to an announcement recently issued by J. W. Ladd, President.

For many years Mr. Fogg was in charge of the national sales of power milk bottle fillers, power driven conveyors, and soaker type washers. Many design features perfected by him have contributed greatly to efficient dairy plant operation. His wide experience in the

J. W. Fogg

dairy industry and his special experience in the design, sale, and installation of milk bottle fillers and cappers fitted him for the important position to which he has been appointed.

Mr. Fogg succeeds Ed. W. Neumeister, another well known equipment manufacturer, in the active management of the company's operations in Milwaukee. Mr. Neumeister remains a director of the company and a member of the executive committee. Ed. W. Neumeister and his brother, the late Harry L. Neumeister, were principal owners of the Milwaukee Dairy Supply Company, pioneer manufacturers of milk bottle fillers and cappers. These machines were popularly known as "Milwaukee" fillers. Since 1928, this operation has been a division of the Cherry-Burrell Corporation. The Milwaukee factory is the only plant in the world devoted exclusively to the design and manufacture of milk bottle fillers and cappers.

Simultaneous with the above change, A. J. Lippold asked that he be relieved as chief engineer at Milwaukee, to be succeeded by Theodore H. Kummer, who has been a member of the engineering department for the past four years. Mr. Lippold will remain with the company as consulting design engineer. He designed the first rotary milk bottle filler offered to the dairy industry, and has been connected with the development of the "Milwaukee" line since 1910. He is highly respected in the dairy industry for his creative design ability.

PRAISES MILK INDUSTRY

Indianapolis, Ind. (EB) — Processors and manufacturers of milk products in Indiana recently were lauded by Governor Henry F. Schricker. "Indiana's great dairy industry," he said, "has recognized its obligation in increasing production of milk and dairy products to further the war effort. In spite of labor, feed and equipment shortage, farmers and processors have responded nobly to the nation's call by breaking all previous production records for these essential foods."

ADVERTISING CAMPAIGN

Supplee-Mills-Jones Milk Company in Philadelphia is running an advertising campaign in thirty-eight daily and weekly newspapers throughout Pennsylvania and New Jersey, stressing the important contribution dairy farms are making in taking care of the needs of the community.

WORKS ON FURLOUGH

Veteran Beebe of Mono Service Resumes Job During His Leave

Soldier Beebe, who was on a short furlough, recently married Miss Veronica Jadick, of Belleville, N. J., and then worked ten days at his old job as printer making Mono Kleen Kups. While on the job he spoke at a "Presenteeism" rally to Mono Service Company employees and presented war saving stamps as a bonus to those who had a record of perfect attendance and urged all his former fellow-workers to aim for perfect attendance, pointing out that absenteeism is not tolerated in the Army.

Private Robert H. Beebe, a veteran of the North African campaign, was wounded and received the Purple Heart. He started the Mono's Red Cross drive by stating that this own life had been saved by blood plasma. Six transfusions were given him on the battlefield and two when he was operated on later which aided in speeding his recovery.

PREVENT *that*
POST-WAR
HEADACHE

by establishing a permanent connection with an aggressive organization which will take all your quality milks, paying for them outright on a cash basis, barrels to carloads.

Write, wire or phone us today

PASTOR DAIRY PRODUCTS
201 NORTH WELLS ST. *Established 1930* CHICAGO 6, ILL.

—MILK—

RECEIVERS AND SHIPPERS
A Dependable National Marketing Service
Authorized Receivers Set Aside Powder

POWDERED	CONDENSED
Whole-Skim-Roller-Spray	Sweetened & Plain Skim
Your "Set-Aside" and Free	Sweet Cream
Authorized Receivers	Frozen Cream
FDO 54	

SIMMONS DAIRY PRODUCTS, Ltd.
2 W. FRONT STREET Phone Main 0461 CINCINNATI, OHIO

New L292 Quotas

Modification Order Permits More Flexibility in Manufacturing Equipment —Tonnage Supplants Unit Basis

Washington, D. C.—According to a WPB announcement June 13, quota restrictions governing production of dairy machinery and equipment have been modified to permit more flexibility in their application, and to make adjustments in permitted sanitary pump production that will meet demands for such items.

Quotas on a tonnage basis, rather than on a unit basis have been established by a revision of Schedule 1 LF L-292. This means that manufacturers will now be permitted to use a specified percentage of the tonnage of controlled materials used during the base period (1939, 1940 and 1941) in the manufacture of items of dairy machinery and equipment.

Optional Manufacture

The new quotas for classes of dairy equipment are as follows:

Separators, clarifiers and pumps	165 per cent
Ice cream equipment	25 per cent
Dehydration equipment	200 per cent

According to the revision butter, cheese and fluid milk plant equipment is divided into two groups. The quota for all equipment is 110 per cent of the controlled materials used for the Group A items in the base period plus 200 per cent of the controlled materials used for the Group B items in the base period. This quota may be used for any product in either group or divided among the products in both groups in any way that the manufacturers wishes.

Controlled materials may be used in the production of separators, clarifiers and sanitary pumps at 165 per cent of the base period rate, whereas former quotas permitted such use at about 125 per cent of such rate.

WINS FEDERATION CALF

Washington, D. C.—R. E. Christenson of Atkinson, Minnesota, a member of the Twin Ports Milk Producers Association, is the winner of "Spruce Shadows—Maxim", prize bull calf made famous when he was sold, sight unseen, at auction at the annual meeting of the National Cooperative Milk Producers Federation in Chicago last December for $700,000 in War Bonds.

The prize-winning calf was bid in by the Twin Ports Association at the Chicago meeting. The animal has now been awarded to Mr. Christenson as the winner of an essay contest among Twin Ports members on the subject "What is the Post-War Future for Dairy Farmers Through Marketing Quality Products, Advertising and Research."

In all, seven prizes were awarded by the judges in the contest. In the order named, the other six prize-winners were: Stanley Kauppi, Brule, Wisconsin; Albin J. Anderson, Lake Nebagamon, Wisconsin; Edward J. O'Brien, Foxboro, Wisconsin; Andrew Busch, Superior, Wisconsin; Thera Anderson, Lake Nebagamon, Wisconsin; and E. D. Jones, Carlton, Minnesota.

N. J. FARM PRICES

According to a report of the State Department of Agriculture, New Jersey farmers received higher prices for their products this June. The rise is looked upon as a recovery from the ten-year period of low prices when farming was unprofitable. A reasonable balance can now be noted in the relationship between prices received by New Jersey farmers for their products and the prices paid by them for commodities needed to produce their crops and live stock.

Average prices received by New Jersey farmers in June, 1944 were 3.8 per cent higher than during June, 1943. Farm price studies by the New Jersey Department of Agriculture reveal that grains and tame hay have advanced 48 per cent in price; vegetables, 8 per cent; apples and strawberries, 9 per cent; and milk, 10 per cent.

The economic condition of dairy farmers is improving slowly. New Jersey farmers received this June an average of eight and one-half cents ($0.0849) per quart, federal subsidy excluded, as compared with seven and three-quarters cents ($0.0774) per quart last June when the subsidy was not in effect.

June is the first month to show a rise in farm prices. Departmental reports show that from January through May of this year, when the bulk of farm income was derived from the poultry and dairy industries, the cost of production exceeded the return every month.

IMPORT FARM LABOR

Groups of Newfoundland farm hands are presently employed in New York upstate dairies, according to a recent statement by the New York State Farm Man-Power Director. He said more workers will be obtained from the same source to relieve the acute dairy man-power situation.

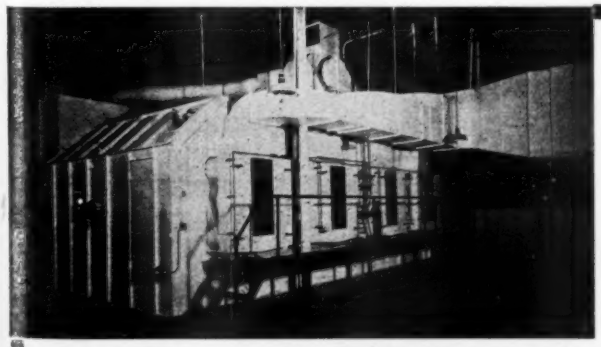
The workers were recruited by the War Food Administration, and assigned to state agricultural institutions for a ten-day preparatory course.

Officials of the New York Milkshed Administration and of the War Man-Power Commission expressed the hope that further dairy reinforcements can be obtained among the Newfoundlanders.

RETURNS TO KRIM-KO

Chicago, Ill.—After serving a considerable "hitch" as consultant in one of Uncle Sam's many shell-loading plants, Dr. A. E. Siehrs, Chief Chemist of the Krim-Ko Company, has returned to his post in that organization.

Among his new responsibilities in directing the efforts of a nine-man laboratory staff is the study of marine-weed extractives which this company is now manufacturing for use in dozens of different food, pharmaceutical and industrial products currently beset by shortages of Japanese Agar and other important gums.



CONDENSING EQUIPMENT

with efficient entrainment separator
Designed to produce highest quality
CONCENTRATED SKIMMILK — WHOLE MILK
ICE CREAM MIX — BUTTERMILK
Ask us for Location of Nearest Installation

SPRAY PROCESS DRYERS

Continuous or Batch Operation for drying
MILK, EGGS AND OTHER FOODS—FULL RECOVERY OF SOLIDS
Economical Operation

HIGH TEMPERATURE CREAM PASTEURIZERS
HOTWELLS

C. E. ROGERS CO. 8731 WITT STREET, DETROIT 9, MICH.

Using Our Separator

Items of Interest Skimmed From Here and There

pH Control

CELEBRATING its 25th anniversary, the LaMotte Chemical Products Co. of Towson 4, Baltimore, Md., presents a new, 84 page revised edition of its well-known handbook, "The A B C of ph Control"

This informative manual, in its 12th edition, has become the most comprehensive handbook yet published by the "Originators of Practical Application of pH Control".

Its up-to-the-minute information and general catalog section describing the full line of LaMotte equipment and chemical reagents should be useful and informative for those interested in the processing industries that require specialized controls.

Water Cooling

DUE TO THE growing number and variety of applications for specialized types of water cooling equipment in the dairy industry the Marley Company of Kansas City, Kansas, has compiled a fully illustrated booklet devoted exclusively to this subject. Dairy plant operators who have water cooling problems will find it interesting and helpful. The Marley Company states that it was created primarily as an educational piecé to give industrial users of water for cooling purposes a better understanding of the engineering principles involved and then to discuss best modern practice in the selection, application, operation and maintenance of each type of water cooling equipment. Marley equipment and features are introduced only in an incidental way. The effort has been made throughout to explain all phases of the subject simply, briefly and, so far as possible, pictorially.

The theory and practice of water cooling engineering has been given either such thorough yet condensed treatment or such extensive illustration to make each point dramatically clear. The booklet is intended to serve as a "refresher course" for trained engineers and as a practical working reference for non-technical men; but in both cases to bring the readers abreast of latest trends in the field.

Plant operators and dairy plant engineers may obtain a copy of this worthwhile booklet by writing to The Marley Company and mentioning this publication.

Anti-oxidant

A NEW chemical of vegetable origin, anti-ovidant in character, has been announced by the Wm. J. Stange Company of Chicago. The full chemical name, Nor-di-hydro-guaiaretic Acid, has been shortened to N. D. G. A. It comes from Larrea Divaricata or creosote bush which is a type of low, scrubby vegetation growing wild in semi-arid regions of our western states. The refined product has a white, crystalline appearance similar to that of granulated sugar.

Said to be approved by the U. S. Department of Agriculture as non-toxic, and approved by the Department's Bureau of Animal Industry for use in lard, this product is expected to find wide application as an anti-oxidant for foods containing fats or oils in the post-war period.

Footwear

A NEW catalog section on its line of industrial footwear made with GR-S synthetic rubber has been issued by The B. F. Goodrich Company, Akron, Ohio, and is now available upon request. The section pictures and describes the work boots, shoes and rubbers and tells what rationing regulations are effective on each.

Refrigeration Catalog

YORK CORPORATION, York, Pa., has just issued a new catalog of accessories and supplies for refrigeration and air conditioning plants.

The book is designed to give quick, complete "finger-tip" information under the following headings: accessories and supplies, ice cans and air fittings, valves and fittings, oil, cold storage doors, renewal parts, tables and data. Under the latter, sizes, weights, performance data, net prices, photographs, mechanical drawings, descriptions, and so forth, have been included. The catalog is the loose leaf type, divided into sections and tabbed for ready reference. It is available on request via business letterhead.

Fuel Economizer

REDUCING REQUIRED steam pressure from 10 pounds to 1½ pounds on a large heating system, is the unusual record of fuel savings achieved during a two year operating test by the Suhm-Mac Steam Way Economizer, according to the Suhm Company, Inc., of Milwaukee.

This steam economizer is described as a balanced unit consisting of a 10-gallon tank with one or more drip valves for connection to steam headers.

The operation is to "purify" the steam by alkalizing all possible acidity. By alkalizing the free CO_2 gas and oxygen in the steam lines, these destructive factors can not only be prevented, but they are also quickly eliminated from the system.

Further details on this steam economizer may be obtained from the manufacturer, Suhm Company, Inc., 1942-U South Kinnickinnic Avenue, Milwaukee 4, Wisconsin.

Sales Service for Manufacturers of
MILK PRODUCTS
Evaporated Milk—Powdered Skim Milk — Powdered Buttermilk — Condensed Skim and Whole Milk — Powdered Whole Milk.
C. W. BURCKHALTER, Inc.
156 Franklin St., New York, N. Y.
WAlker 5-0727

DRY MILK
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ICE CREAM MANUFACTURERS
Spray or Roller Process
BUTTERMILK POWDER
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For Human Consumption
Cars or Less
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Storing Soft Cheese

Proper Preparation and Storage Will Insure Acceptable Product After Several Months in Storage

In reply to inquiries regarding the storing of soft type cheese during the season when production will exceed the immediate need, Dr. J. C. Marquardt of the New York State Department of Agriculture and Markets, has prepared a bulletin with the following recommended procedures:

Cottage cheese can be stored successfully at 32 to 40 deg. F. for 90 days. If frozen and held at 0 deg. F. it can be held for five months.

Cottage cheese is made in the regular way and salted but never creamed when it is held at 32 to 40 deg. F. When used it is mixed with an equal quantity of freshly made cheese. This gives an excellent texture providing both have been cooked the same.

Cottage cheese to be frozen is made in the usual way but it is not salted. The final wash water should be very cold. In freezing the curd, the tins should be stacked open with a fan circulating the air around them. After twelve hours, they can be stacked solid.

Frozen curd can be prepared for use by stacking open in a 40 deg. F. room for 24 hours. It can be prepared by placing in a tank of cold water over night. Hot or warm water should never be used as it impairs the texture. In using this curd, it should also be mixed with an equal quantity of freshly made curd before salting and creaming.

Proper Packaging

Cottage cheese should be packed for storing in tins that have been properly washed, sterilized and lined. The tins should be well filled and tightly packed. The curd should be at 60 deg. F. or below when packed.

Baker's cheese can be stored like cottage cheese. Containers made to hold 60 lbs. or less should be used. Baker's cheese that is made from a mixture of buttermilk and skimmilk should not be stored.

In storing cheese at 32 to 40 deg. F. it is desirable to have the temperature as near 32 as possible. These cheese deteriorate when held at 50 deg. F.

No attempt should be made to store farmers' cheese.

In the present emergency, it is most fortunate that practical experience of the past has provided safe and successful methods for storing soft cheese. Although cheese made from raw milk has been successfully held, it is desirable to use pasteurized skimmilk cheese. This gives a flavor and texture advantage.

Undergoing Army Training

Private James R. Wright, now a member of Company C, 30th Battalion, M.P.R.T.C., undergoing training at Camp Custer, Michigan. Private Wright, recently inducted in the Army, is the son of Fred J. Wright and was associated with his father in the conduct of the Fred Wright Company of 915 Olive St., St. Louis 1, Missouri, magazine publishers' representative. The Fred Wright concern has for some time been acting as South Central Representative of the Urner-Barry Company publications.

MISS SPADER JOINS COUNCIL

After nearly four years of most successful experience as director of the Dairy Council at Kansas City, Miss Margaret Spader has resigned to accept a place on the staff of the National Dairy Council with headquarters in Chicago. She becomes a member of the Program Operations Department.

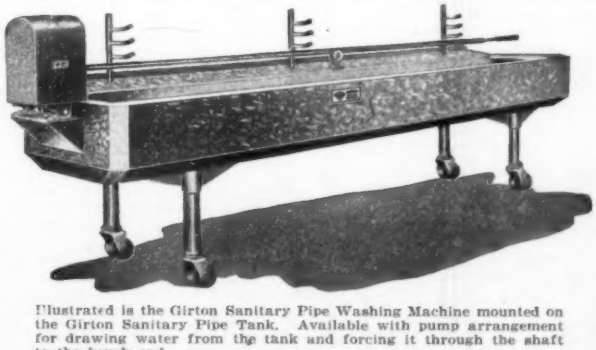
Miss Spader is a graduate in home economics from the University of Nebraska and later carried on advanced studies in home economics at the Colorado College of Agriculture. After graduation she was very successful as a teacher of vocational home economics and later as a home management supervisor for Farm Security Administration.

COW POPULATION HIGHER

According to preliminary figures recently released by the U. S. Department of Agriculture, the number of milk cows and milk production on farms in the United States in 1943 totaled 25,661,000. The annual average milk production per cow is reported as 4,604 pounds. Total milk production for 1943 is estimated to have been 118.14 billion pounds.

GREEN SPOT DISTRIBUTION

F. H. Harwood, Supply Sales Manager of the Cherry-Burrell Corporation, has recently attended a number of sales meetings at various branches. Among other matters favorably acted upon at the Pittsburgh, Detroit, Cincinnati and Cedar Rapids branches was the decision to handle Green Spot Orangeade Concentrate. Practically every Cherry-Burrell jobber in the country and six Cherry-Burrell branches now distribute Green Spot, which like themselves is "Geared to Serve the Dairy Industry" exclusively.



Illustrated is the Girton Sanitary Pipe Washing Machine mounted on the Girton Sanitary Pipe Tank. Available with pump arrangement for drawing water from the tank and forcing it through the shaft to the brush end.

NOW Washes 1 Inch Sanitary Piping

The Girton Sanitary Pipe Washing Machine now washes sanitary piping from 1" up. This is the first and only machine on the market which will handle pipe of such small diameter.

The shaft construction utilizes a new, simplified and improved design, which places this equipment far ahead of the field.

Girton originated the Sanitary Pipe Washing Machine! Girton now makes its most outstanding improvement!!

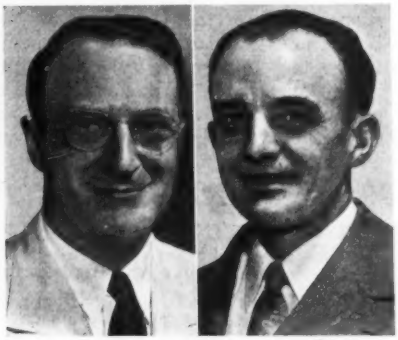
WRITE FOR CATALOG

GIRTON MFG. CO. MILLVILLE, PA.

BORDEN SCIENCE AWARDS

Dr. A. C. Dahlberg and Dr. Paul H. Phillips Honored for Achievements

Dr. A. C. Dahlberg, professor of dairy industry at Cornell University, and Dr. Paul H. Phillips, professor of biochemistry at the University of Wisconsin, received the 1944 Borden Awards for outstanding work in dairy science research. The awards of $1,000 and a gold medal each were presented at the Columbus (Ohio) meeting of the American Dairy Science Association, which selected the recipients.



Dr. A. C. Dahlberg Dr. P. H. Phillips

Dr. Dahlberg received the award in recognition of his research in the viscosity of cream, the use of stabilizers in ice cream and ices, the sweetness of sugars and their use in ice cream, new techniques in pasteurization and similar problems. Dr. Phillips was honored for his work in the fields of reproduction problems in dairy cattle, vitamins in nutrition of calves and the effect of various fluorine levels in dairy cattle feeding.

The awards were established by the Borden Company in 1936 to recognize outstanding achievement and encourage research in fields allied to the food industry.

PENNSYLVANIA SHORT COURSE

Testing and Technical Control of Products to Be Featured

The Department of Dairy Husbandry of Pennsylvania State College offers a short course in "Testing Milk, Cream, and Dairy Products", to be conducted July 24 to 29, 1944.

The announcement states that those who find it impossible to be away from their plants for extended periods will find it profitable to spend a week in learning what is new in their particular field of work. Those who have had no experience in dairy plant work are especially encouraged to attend. The purpose of this course is to give dairy workers a better understanding of the problems connected with the manufacturing and testing of dairy products.

During the past 53 years, nearly 3,000 young men and women have been trained at The Pennsylvania State College in various lines of dairy plant work and are now filling positions in dairy plants throughout the country. Since many men are leaving plants for the armed forces or war services, it has been found advisable to train women to take their places. Therefore, women are urged to attend these courses.

The course in testing milk, cream and dairy products is designed especially for those who wish to qualify to take an examination for a certificate in weighing, sampling and testing and for those who wish to become more proficient in testing dairy products. Instruction will also be given in solids determinations, acidity tests, and milk and cream standardization. At the end of the course an examination will be given by a representative of the Milk Control Commission for those who desire to obtain a State certificate to weigh, sample, and test milk and cream.

Lectures will be given on the following subjects: Composition and properties of milk; Factors affecting composition; Weighing and sampling; Taking composite samples; Preservatives and keeping samples; Testing dairy products; Analyzing butter; Acidity tests; Adulterations and solids determinations; Standardizing milk and cream.

Laboratory exercises will be held in connection with the following: Testing milk and cream; Factors affecting milk and cream tests; Making and testing composite samples; Determining adulterations and solids in milk; Acid determinations; Testing ice cream, chocolate milk, and concentrated dairy products; Testing cheese; Analyzing butter; Standardizing milk and cream.

There is an incidental fee of $1.50 per week for the course and a laboratory fee of $5.00. A health fee of 75 cents is charged for the course. Board and room will cost from $10 to $12 per week. Books and a white suit will cost an additional $5. Students should bring their own white suits.

MAY MILK FLOW UP

Washington, D. C.—Bureau of Agricultural Economics reports May milk production showing a good seasonal gain. The total stood at 11.9 billion pounds, even with last year but 2 per cent off from May, 1942.

Statistical Review of the New York Market For June, 1944

CONCENTRATED MILKS

DATE	CASE CONDENSED Known br. (case)	CASE CONDENSED Other br. (case)	CASE EVAPORATED Known br. (case)	CASE EVAPORATED Other br. (case)	Unsw.cond. whole milk 40-qt. can 10% Fat	DRY SKIMMILK —Spray— Known br. Lb.	DRY SKIMMILK —Spray— Other br. Lb.	DRY SKIMMILK —Hot Roller— Other br. Human	DRY SKIMMILK —Hot Roller— Other br. Feed
June1	6.25@6.40	—@—	4.20@4.25	4.20@4.25	—@—	15½@—	15½@—	15½@—	—@—
" 2	6.25@6.40	—@—	4.20@4.25	4.20@4.25	—@—	15½@—	15½@—	15½@—	—@—
" 3	6.25@6.40	—@—	4.20@4.25	4.20@4.25	—@—	15½@—	15½@—	15½@—	—@—
" 5	6.25@6.40	—@—	4.20@4.25	4.20@4.25	—@—	15½@—	15½@—	15½@—	—@—
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" 22	6.25@6.40	—@—	4.20@4.25	4.20@4.25	—@—	15½@—	15½@—	15½@—	—@—
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" 27	6.25@6.40	—@—	4.20@4.25	4.20@4.25	—@—	15½@—	15½@—	15½@—	—@—
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T.& A.	6.32½	—@—	4.22½	4.22½	—@—	15.75	15.75	15.25	—@—

N. Y. MILK PRICES

Basic prices for 3.5% milk in 201-210 mile zone in effect in New York City Area under the Federal-State Marketing Agreement used by all handlers in figuring returns for June:

Class	Price per cwt.	Per point butterfat differential
I In Marketing Area	$3.70	.04
II Outside non-Federal	.20†	.04
II-A	2.55	.073
II-B	2.43	.069
II-C	2.034	.058
II-D	2.198	.063
II-E	1.934	.055
II-F	1.934	.055
III	2.671	.076
IV-A	1.796	.051
IV-B	2.295	.056
V-A	1.260	.....
V-B	.710	.....

†Plus uniform price for June, 1944.

Rail & Truck Receipts at N.Y.C.&Metrop. Area
(Statistics of U. S. Dept. of Agriculture)

1943-44 Milk	Fresh Cream	Frozen Cream	Fresh Cond. Milk
May 3,705,998	88,392	5,490	39,065
Apr. 3,440,073	70,274	3,730	35,946
Mar. ..3,621,846	57,706	2,121	26,473
Feb. ..3,391,796	49,789	5,571	19,123
Jan. 3,575,561	48,984	8,667	21,164
Dec. ..3,619,966	48,522	10,053	17,224
Nov. ..3,577,807	46,252	12,273	19,293
Sept. ..3,562,684	61,075	7,019	33,931

NEW FILTER GOODS FIRM

Myron E. Schwartz Heads Business Opened in Milwaukee

Under the firm name of Myron E. Schwartz, Incorporated, a new manufacturing plant has been established in Milwaukee, by Myron E. Schwartz, president, who has been prominently connected with the dairy industry for almost 25 years, during which he made numerous contributions to the advancement of milk filtration.

In 1921, Mr. Schwartz is said to have pioneered the modern disc type of milk filter disc. Since then he has been actively associated with the industry out of Two Rivers, Wis.

In January, Mr. Schwartz sold his interests in the Schwartz Manufacturing Company. He opened up his new factory in Milwaukee which is being equipped with all the latest machinery to achieve highest efficiency in quality production. A new group of packages, highly distinctive in design and color, has been created to take full advantage of over-the-counter sales possibilities.

Mr. Schwartz stated recently that he plans a highly personalized business — specifically adopted to the servicing of a comparatively few organizations.

The brand name to be Kleen Test—for such items as milk filter discs, flannel squares, filter rolls, cheese bandages, sediment tester discs, etc.

CARNATION OPENS PLANT

Dadeville, Ala. — Dairy Day for the Piedmont Area of Alabama was held recently on the occasion of the formal opening of the Carnation Milk plant here.

CLASSIFIED ADVERTISING

RATES: "Position Wanted," 50c. Limit of 50 words; 2c for each additional word. All other advertisements, 5c a word ($1.00 minimum). Keyed ads, 15c extra to cover return postage. The name and address should be included in counting the words.

All payments strictly in advance.

POSITION WANTED

Manager with the best of references and experienced in all branches of Dairy Plant Manufacturing Operations and Sales, wishes to make permanent connection with a milk, ice cream or condensing plant. Write Box 701, care this publication. 7-M-2

By production manager of a large bottling plant. Good mechanic—capable of handling and training men. College trained. By-products and laboratory control. Draft deferred. Salary $100 a week. Box 705, care this publication. 7-M

POSITION WANTED

Working plant manager would like to contact some established bottling company where his services and some investment are desired. Send full information Box 706, care this publication. 7-M

As Creamery Foreman—20 years experience. Understand farm inspection and Board of Health rules and plant machinery, manufacturing milk products testing and standardizing milk and cream. Write Box 704, care this publication. 7-M

HELP WANTED

WANTED — Buttermaker or buttermaker's helper. Steady position, good salary, write full details. Sam Lerner & Sons, Inc., 1057-1059 W. 14th St., Chicago 8, Ill. 7-M

HELP WANTED—Draft Exempt—Two experienced buttermakers, two experienced pan men for whole milk and skimmilk, two experienced powder men for roller skim milk, for work in New York State. Give age, family status, experience. Also send references. Good salary if well qualified. Write Box 697, care this publication. 7-M-3

Plant Manager wanted for creamery located in New York State. Must have experience separating milk. Write Box 699, care this publication. 7-M

WANTED TO BUY

New or used milk dispensing machines. Vendall type machines preferred. The Old Homestead Dairy, Windsor, Vt. 7-M-2

Electric sour cream filler. Send full details to Elk Brand Dairies, Inc., 435-7 Monroe St., Philadelphia, Pa. 7-M

CREAMERY WANTED

WANTED—To buy or rent Creamery or Milk Plant receiving not less than 5,000 lbs. of milk daily—located in Pennsylvania, New York, New Jersey, Virginia, Maryland or Delaware. Box 703, care this publication. 7-M

WANTED

Part skim curd wanted, around 1 per cent B.f.—for the Italian trade, also fresh whey cheese. Write Box 696, care this publication. 7-M-t.f.

Cream for Butter—Small or large quantities wanted. Permanent or spot shipments. Cohocton Creameries, Inc., 6071 Metropolitan Ave., Ridgewood, N. Y. 7-M-tf

CAPITAL TO INVEST

WE WILL INVEST working capital in a Milk Plant or Creamery that can obtain an additional 4,000 or more pounds of milk daily. We are interested only in a permanent all year round arrangement. Box 702, care this publication. 7-M

FOR SALE

Modern fully equipped dairy, including 90 acre farm, 200 head dairy cattle, 2 good large dwellings, 3 smaller houses. Barns, sheds, scales, silos, 5 trucks. Milk routes in four good towns. Finest in southwest. Also ranches, irrigated farms, residences, etc. Free catalogue. Parkway Realty Co., Silver City, New Mexico. 7-M

FOR SALE—Retail-wholesale milk and ice cream business located best section South. Over three thousand quarts milk daily; over one hundred wholesale ice cream customers. Two distributing branches. Good price and terms. S. Edelmann, 321 Broadway, New York 7, N. Y. WOrth 2-4975. 7-M

Here's Why Many

LEADING DAIRIES

use SELF-LOCKING EGG CARTONS

1. Cushioned protection against costly egg breakage.
2. Outstanding display of eggs.
3. Convenient and economical to use.
4. Save time and labor.
5. Simple and rapid set-up.
6. Outstanding design reproduction.
7. Single surface cover gives 100% display utility.

-A FEW USERS-
Bowman Dairy
The Borden Co.
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SELF-LOCKING EGG CARTONS
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599 E. Illinois St. Chicago, Illinois

USE TODAY'S PROFITS
★ Buy U.S. War Bonds ★
FOR TOMORROW'S NEEDS

France and England declared war on Nazi Germany as Hitler's troops marched into Poland in 1939. Veal calves were averaging $8.40 per hundredweight, and a $100 United States Savings Bond could be bought for $75.

Today a $100 War Savings Bond may still be purchased for $75, but your "vealers" now are selling above $13 on the average.

Priorities probably are keeping you from erecting that new wire fence around the pasture lot, so what better way of saving your surplus cash until the war pressure is off than by investing in War Bonds and Stamps Every Market Day?

WSS 756D *U. S. Treasury Dept.*

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EQUIPMENT FOR SALE

FOR SALE—2,000 gallon round glass lined truck tank; 7 in. single cylinder Worthington compressor; 5x5-7x7-6½x6½ York; 5x5 Sterling compressors all complete with accessories and motors; champion ice crusher with motor; No. 60 and 72 motor driven, complete with motors, De Laval Cream Separators, Sixty has new extra bowl; Pfaudler King milk bottle filler stainless steel, like new; No. 2 cappers 48 bottles per minute; 600 gallon Pfaudler glass lined vertical milk storage tank. Direct Expansion surface cooler, 12 foot long, 8 two inch tubes each section—two direct expansion white metal—one section tinned copper, distributor pipe, lower trough. Two 150 gallon Cherry-Burrell spray vats stainless steel, complete motors, recording thermometers, pumps, etc.; two small automatic sweet cream whippers, motor driven refrigerator, door, 6'x6'x44" 8" thick, metal covered with jam and hardware; Filler Machine Co. automatic sour cream and cottage cheese filler and capper, forty units per minute; hydraulic hoist, water operated, better than ton capacity; Rice Adams rotary can washer 2-3 minute; 1,000 pound hanging Toledo dial scale, complete two compartment tinned copper weigh can and Monel metal receiving vat; 300 gallon glass lined pasteurizer, complete; 24 in. by 10 ft. high pressure ammonia receiver; three heavy water pumps, motor driven, 20 horsepower Leffel Scotch Marine boiler and stack; three steel tanks suitable for water or brine; 100 gallon viscolizer with motor, bronze head, hand capper No. 2 caps; new Binks spray cooling tower, 90 gallons per minute; used Binks spray cooling tower, 100 gallons per minute; Iron Fireman stoker for 100 horsepower boiler; Meyer Dumore bottle washers 8 and 12 wide comeback type, factory rebuilt; 50 horsepower upright boiler; 12 tube 8 ft. 1 in. I. T. cooler; 250 gallon Manton-Gaulin homogenizer, bronze head with motor; 8 wide Heil bottle washers, comeback type; one 90, either 48mm. or No. 2 caps, one A. A. No. 2 caps and one Model C Mojonnier milk bottle filler; 40 quart motor driven brine ice cream freezers; York heat exchanger, stainless steel plates; Permutit water softener outfit complete; hand operated two bottle milk filler, section internal tube heater cooler, 12 two inch tubes; three sections internal tube heater cooler, 1½ tubes, 10 ft. long, 8 tubes each section; Von Gunten milk filters, white metal, 12,000 lbs. per hour. Write your wants—Room 73, 321 Broadway, New York 7, N. Y. WOrth 2-4975. 7-M

One 3½x3½ Creamery Package Self Contained Compressor. Excellent Condition. Write Box 698, care this publication. 7-M

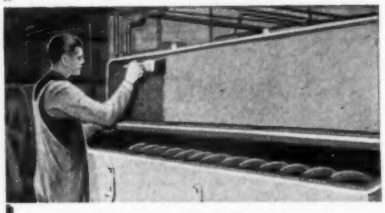
FOR SALE—7½x7½ Slow Speed York Compressor, 25 H.P. motor and starter. no fly wheel, $500.00. Karsten Dairies, Inc. 2338 Hermany Avenue, New York, N. Y. Phone UN. 3-4835. 7-M-B

FOR SALE—One 125 H.P. Used. Ames Horizontal Boiler, recently inspected for 125 pounds steam pressure. Both boiler and stack in good condition. Sauquoit Valley Dairy Co., Inc., 491 French Road, Utica 4, N. Y. 7-M

One Wisner Barrel Heater, Capacity 9,000 lbs. per hour, Stainless Steel Tubes with auxiliary, in good condition. Write Box 700, care this publication. 7-M

FOR SALE—60 gallon Pfaudler Pasteurizer or Tank with revolving coil; 100 gallon Cherry-Burrell Spray D Pasteurizer, s.s. lined; 200 gallon Cherry-Burrell Spray Vat Pasteurizer, nickel lined; 300 gallon Wright Two Compartment s.s. lined Pasteurizer; 300 and 350 gallon Coil Vats; Type "B", "J", "NH" and "L" Milwaukee Fillers; No. 6 Creamery Package Filler, s.s. bowl; Model "AA", "B" and "C" Mojonnier Fillers; 5 ft. and 10 ft. Tubular Surface Coolers; 8 ft. and 12 ft. Combination Direct Expansion Coolers; 6,000 lb. C. P. Barrel Heater; 4, 6 and 8 Wide Soaker Type Bottle Washers; Von Gunten Milk Filter 17x25 in.; No. 12 Peerless Glass Coated Filter, 12,000 lbs.; 1,000 lb. Two Compartment Tinned Copper Weigh Can; No. 3 Vane Churn, 1,000 lb. capacity; No. 30 De Laval Motor Driven Separator; No. 31 and No. 61 De Laval Steam Driven Separators; O. & B. 6 can Rotary Can Washer; 600 to 800 gallon Homogenizers or Viscolizers; 100, 500, 1,800 and 2,000 gallon Glass Lined Holding Tanks; 36 and 84 in. Copper Vacuum Pans. Write or wire your requirements. Lester Kehoe Machinery Corporation, 1 East 42nd St., New York 17, N. Y. Telephone—MUrray Hill 2-4616. 7-M

RETIN VATS and TANKS with CROMATIN



1st: BRUSH TIN ON LIKE PAINT

Just mix CROMATIN powder with water and apply with brush, like paint.

2nd: USE BLOW TORCH AND WIPE

CROMATIN makes a smooth level surface fused to metal. Wiping produces lustre.

Guaranteed 5 Years

CROMATIN (Sorensen's RETIN) is a specially prepared tin alloyed with Chromium—is 3 TIMES HARDER than ordinary tin. It can be used on practically any metal surface except aluminum and lead. Flavor of contents in vat or tank positively not affected. The use of CROMATIN often saves costly and time-consuming repairs, and restores to service vats or tanks considered ready to scrap. 1 pt. $12.00—covers app. 200 sq. ft.

Rust-Proof Milk Cans with E-P Buttons

Replate rusty spots in used cans —prevent rust in new cans. No taints or off flavors. 1 button to can. Box 25 buttons $5.50.

THE SORENSEN CO.
4033 23rd Ave., South, Minneapolis 7, Minn.

☐ Send ..... pint cans CROMATIN, @ $12.00 per pint.
☐ Send ..... boxes Sorensen's E-P Buttons, @ $5.50 per box.

☐ Check or M.O. Enclosed.
☐ Send C.O.D.
☐ Bill 2% – 10 days.

NAME OF FIRM.....
Signature .....
(Write address plainly in margin)

AMR 7/44